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Edition 93. N° 3 **November 2024**

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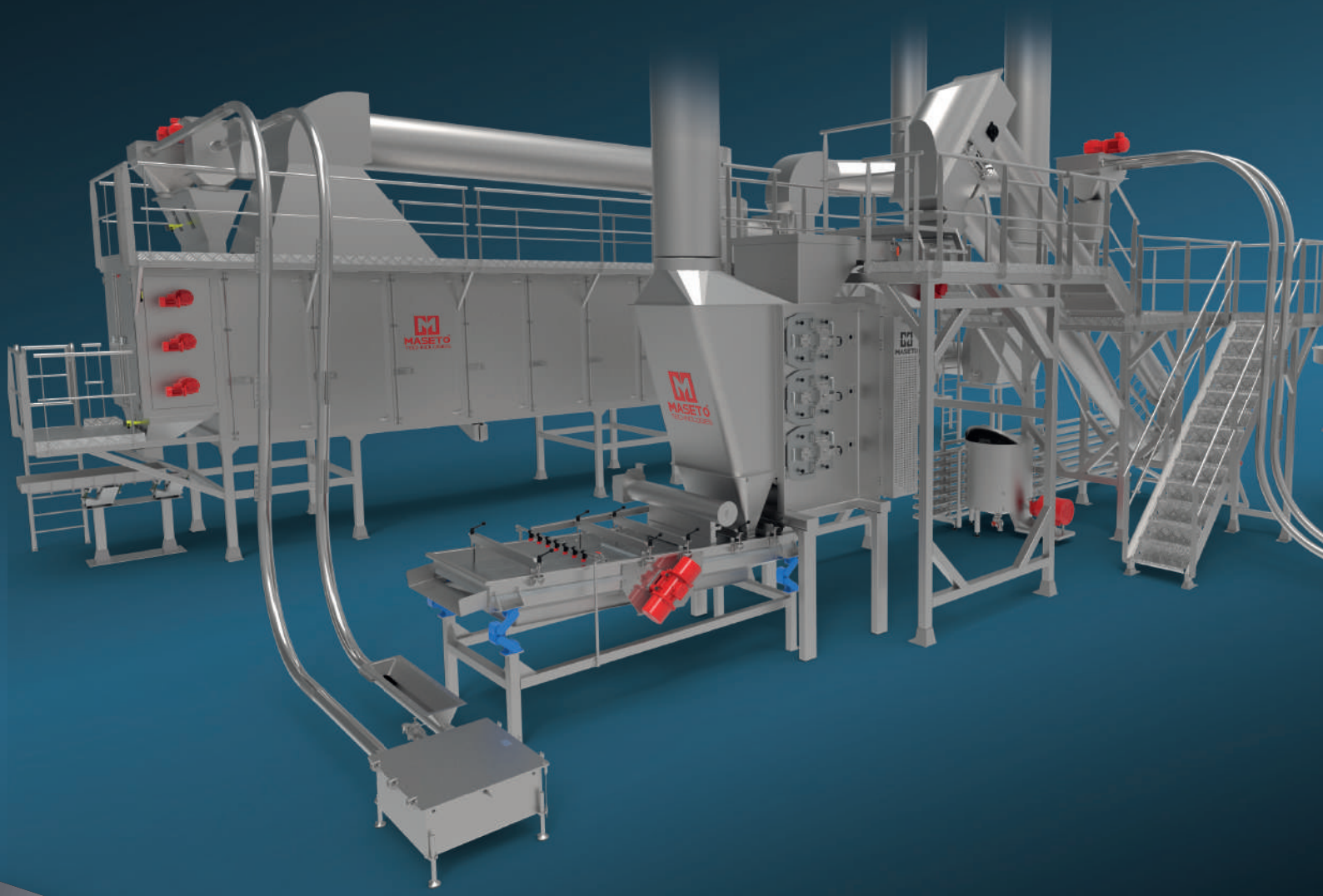

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THE VOICE OF THE INC FOUNDATION FOR THE NUT AND DRIED FRUIT WORLD

Edition 93. N°3 **November 2024**

The INC is the international umbrella organization for the nut and dried fruit industry and the source for information on health, nutrition, statistics, food safety, and international standards and regulations regarding nuts and dried fruits.

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Embracing Opportunities for Sustainable Industry Growth

MICHAEL WARING
INC CHAIRMAN

Looking ahead with renewed confidence, we can see promising signs of resilience and growth for the nut and dried fruit industry. Weather-related challenges in some key producing regions have affected this season's production. An increase in global demand has been seen overall, especially in Asian and European markets. We continue to navigate high input costs, geopolitics-related, logistics and shipping problems, and unpredictable weather driven by climate change. It is imperative that we strive for greater efficiency and sustain strong consumer demand.

In mid-October, the Executive Committee held its quarterly meeting in Rome, Italy. With the goal of advancing the INC's objectives and fostering sustainable growth in the industry, Committee members discussed key INC initiatives and honed the Foundation's strategic direction for the remainder of 2024 and into 2025. While in Rome, the INC leadership also met with the Director-General of the Food and Agriculture Organization of the United Nations (FAO) to discuss the importance of nuts and dried fruits in supporting planetary health, as well as with Fruitimprese, the Italian association of fruit and vegetable industries. We then capped off this busy month with a history-making INC Pavilion at the SIAL trade fair in Paris. With 37 co-exhibitors from 17 countries, it was our largest pavilion ever, providing unparalleled visibility under the banner of the INC and helping members position themselves on the global stage —all in the service of boosting consumption of nuts and dried fruits.

Zooming out, the INC's efforts to drive consumption continue to expand across the world. Earlier this year, our Multi-Country Dissemination Plan branched out into Mexico, Chile, Argentina, and Brazil. Powered by youth-oriented content and partnerships with key influencers, the campaign has already reached more than 80 million people across Latin America. Meanwhile, our ongoing campaigns in China and India continue to touch the hearts of Generation Z with messages of self-love, healthy living, and adventurous lifestyles fuelled by nuts and dried fruits. These campaigns have the potential to shape the nutritional habits of millions of people for years and even decades into the future.

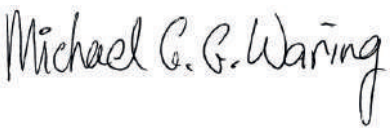
Latin America is also the next target of the INC's Country Outreach program. In November, an INC delegation will participate in Exponut 2024, an annual event organized by Chilenut. The INC will also travel to São Paulo to take part in the 11th Brazilian Nuts Meeting. Our participation in these events is a testament to our belief in the potential of Latin America as a key market for demand growth.

As ever, sustainability is front of mind for the INC. Currently, we are in the process of establishing the INC Institute for Sustainability in Nuts and Dried Fruits, which aims to become the global hub for information and the dissemination of sustainable actions throughout the sector. This initiative will not only serve as a resource for sharing best practices but also promote awareness of sustainable initiatives, encouraging stakeholders to adopt strategies that support long-term sustainable growth.

Looking ahead to next year, we are laying the groundwork for the 2025 INC Congress on the beautiful island of Mallorca, Spain. From May 8-10, 2025, key players will gather at the Palma Convention Centre for the industry's most exclusive event, soaking up the Mediterranean sun as well as invaluable insights into nut and dried fruit industry. Alongside our usual round tables, seminars and social events, the INC Congress as always will provide high-level business and networking opportunities.

Finally, the INC's headquarters in Reus, Spain, will host NUTS 2025 from October 9-10, 2025. Following the success of the historic NUTS 2022 conference, next year's gathering will once again bring together some of the world's top health researchers to discuss hot topics in nutrition research and to define new research opportunities. Insights from this gathering will be published in a prestigious scientific journal, helping to consolidate the expert consensus around the health benefits of nuts and dried fruits.

Kind regards,



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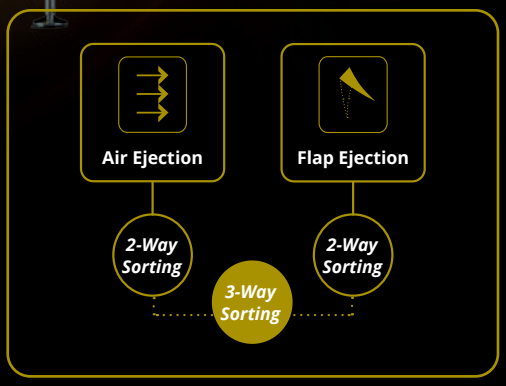

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INC Strategic Goals Update:

Powering the Future of Sustainable Growth in Nuts and Dried Fruits!

GORETTI GUASCH
INC EXECUTIVE DIRECTOR

In late 2022, the INC Executive Committee convened for a Strategic Planning Meeting, where we set ambitious goals to foster global growth in nut and dried fruit consumption. Since then, the INC has focused on a clear mission: to drive sustainable growth in supply and consumption, while underscoring the health benefits of nuts and dried fruits worldwide. Two years into this journey, I'm excited to reflect on the milestones achieved in advancing these goals.

The INC's multi-country dissemination campaign has been instrumental in achieving ***Goal #1: Increase global consumption to ensure a healthy balance between supply and demand***. With Gen Z's global population at 2.47 billion and their position as the largest consumer group through 2030, the campaign targeted this key demographic as a primary driver of the global market. Engaging, region-specific content has raised awareness of nut and dried fruit consumption across key markets. For instance, the *Nut Tunes* campaign in Latin America utilized music and interactive media to emphasize health benefits. In China, the campaign connected energy-boosting nuts and dried fruits to outdoor activities, while India's *It's Time to Make a Switch* campaign highlighted benefits such as energy and immunity. Together, these initiatives have reached 367 million Gen Z individuals.

In tandem, the INC launched the Country Outreach program, aiming to strengthen relationships with governments, retailers, and manufacturers to address industry challenges and advocate for increased consumption. This program utilizes key initiatives such as the World Declaration on Nuts and Dried Fruits, which expresses the INC's commitment to tackling critical challenges by promoting the increased consumption of nuts and dried fruits for a better world. Together, these efforts expand awareness and drive demand across key regions, thereby contributing to Goal #1.

The INC has made significant strides toward ***Goal #2: Prioritize key areas of focus for health and nutrition to obtain regulatory approved health claims to aid the promotion of nuts and dried fruits globally***. At the NUTS 2022 gathering, leading researchers discussed future priorities for health research on nuts and dried fruits. They identified critical areas of focus, including type 2 diabetes, cardiovascular health, cognitive function, stroke, cancer, and mortality. Based on these insights, we are actively pursuing a health claim that could have a global impact on consumption.

To support this effort, the INC has initiated the NUTPOOL study, a groundbreaking meta-analysis involving 1 million participants from around the world. This study is the first of its kind to examine the link between nut consumption and the risk of various chronic diseases using a standardized approach. The results will be pivotal for the industry, providing evidence to promote the health benefits of nuts and dried fruits.

The INC has made substantial progress toward ***Goal #3: Collaborate with international organizations regarding increasing market access and overcoming the challenges of trade barriers and supply chain issues***. By engaging in discussions with international organizations, the INC has facilitated dialogue around food safety and agricultural quality standards, which are crucial for improving market access for nuts and dried fruits.

These efforts focus on enhancing collaboration across the supply chain, ensuring that stakeholders are informed about best practices and regulatory requirements. By addressing trade barriers and supply-chain challenges, the INC is creating a more conducive environment for the consumption of nuts and dried fruits globally.

The INC is advancing ***Goal #4: Define the sustainability agenda for the nut and dried fruit industry*** through the establishment of the proposed INC Institute for Sustainability in Nuts and Dried Fruits. This Institute is set to become the global hub for sustainability-related information and best practices across the sector. The Institute will align its activities with the objectives outlined in the INC Sustainability Manifesto and the UN Sustainable Development Goals (SDGs) identified by the INC. Key objectives include promoting sustainable development globally through the INC's extensive network, providing tools and resources for monitoring sustainable actions, facilitating collaboration among stakeholders with proven sustainable practices, and positioning the INC as the leading source of information for the industry.

Through all these initiatives, the INC is committed to fostering a sustainable future for the industry. I look forward to keeping you updated on our progress. Together, we can build a healthier future for consumers while ensuring the viability of our industry.

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Mars to Acquire Kellanova

Mars Inc. and Kellanova announced in August that they have entered into a definitive agreement under which Mars will acquire Kellanova for US$83.50 per share in cash, for a total consideration of US$35.9 billion, including assumed net leverage. Upon completion of the transaction, Kellanova will become part of Mars Snacking, headquartered in Chicago. All of Kellanova's brands, assets and operations —including its snacking brands, portfolio of international cereal and noodles, North American plant-based foods and frozen breakfast— are included in the transaction. Mars intends to fully finance the acquisition through a combination of cash-on-hand and new debt, for which commitments have been secured. The transaction is subject to Kellanova shareholder approval and other customary closing conditions, including regulatory approvals, and is expected to close within the first half of 2025.

"Under this US$36 billion deal, Kellanova will become part of Mars Snacking, headquartered in Chicago."

Daily Crunch Raises US$4 Million to Expand Sprouted Nut Business

Daily Crunch, a Nashville, Tennessee-based brand specializing in sprouted nut snacks, recently secured US$4 million in Series A funding led by Launch Tennessee, as reported by *Forbes*. Daily Crunch sets itself apart by making nuts more nutrient-dense and easier to digest, thanks to its patented four-day sprouting and dehydrating technique. The company plans to use the capital to expand production, enhance retail partnerships, and launch new products gradually. Daily Crunch offers seven distinct flavors, including classic Sprouted Almonds and bolder options like Nashville Hot and Dill Pickle. While online sales have contributed to the brand's growth, its primary focus is on expanding its presence in retail stores.

Chilean Group Empresas Sutil to Acquire National Raisin Company

The Chilean business group Empresas Sutil —home to Pacific Nut Company, Frutícola Olmué, Top Wine Group, Champiñones Abrantes, Banagro, Agrícola Sutil and Coagra— has reached an agreement to acquire National Raisin Company, also known as the Sunshine Raisin Corporation, as reported by the *San Joaquin Valley Sun* in September. Headquartered in Fowler, California, National Raisin Company has operated in the Central Valley since 1969. In a statement quoted by the *Sun*, Juan Sutil, chairman of the board of Empresas Sutil, commented: "We are committed to continue cultivating National's long-lasting relationships with its employees, customers, California producers, suppliers, and the community, always aiming for excellence and guided by our core values of trust, accountability, transparency, and respect, which have inspired us in building Empresas Sutil for more than 40 years."

Sun-Maid Promotes Steve Loftus to President and CEO

Photo: Milne Photography, Fresno

Sun-Maid Growers of California announced in August that Steve Loftus had been promoted from the company's President and Chief Operating Officer to President and Chief Executive Officer. Additionally, Harry Overly stepped down from his position as Executive Chairman of Sun-Maid's Board of Directors on September 1, having successfully overseen a smooth leadership transition, and will now focus on his role as President and CEO of Flagstone Foods. Loftus, who joined Sun-Maid as President and COO in December 2022, has been recognized for his strong industry experience and ability to align partners around common objectives. As CEO, he will continue to focus on executing the company's strategic initiatives and driving efficiencies for growth. "I am honored to assume the role of CEO and grateful for the support of the board and our grower-members," said Steve Loftus. "I look forward to continuing to work closely with our team to build on our success and drive the business forward, ensuring that Sun-Maid remains a leader in the industry."

Acomo Acquires Caldic Nut and Dried Fruit Business in Northern Europe

ACOMO N.V., the Euronext-listed plant-based food ingredients group, has acquired the Caldic Food Service and Retail nut and dried fruit business in Northern Europe. The acquisition, completed in August, is in line with Acomo's strategy as presented at the group's annual shareholders' meeting in April, which called for further new investments in the spices and nuts segment. Caldic Food Service and Retail operates an office and a production facility in Malmö, Sweden. The company is mainly active in Denmark, Sweden, Norway, Finland and Germany, and supplies a wide range of nuts, seeds, kernels, dried fruits, pulses and marzipan to wholesale and retail customers, the food industry and the out-of-home market. It also runs its own retail brand, Naturens Energi. Caldic Food Service and Retail will be renamed to Delinuts Nordics and jointly operate with Delinuts Netherlands.

Moroccan Conglomerate to Acquire Hazelnut-Spread Maker Nutkao

Al Mada, an investment holding company controlled by the Moroccan royal family, announced in September that its agribusiness subsidiary Teralys had signed an agreement to acquire Nutkao. Founded in 1982, Nutkao specializes in the production and distribution of cocoa, hazelnut and pistachio-based products. The group markets a wide range of products in 80 countries and owns production units in Italy, Belgium and the United States, as well as a cocoa processing plant in Ghana. This acquisition is aligned with Teralys's strategy for long-term investment in structuring projects for the agro-industry, promoting the development of African resources and further expanding local production.

Almondco 80th Anniversary Celebration

On September 14, 2024, Almondco celebrated 80 years as a cooperative business and 30 years at its current secondary processing and marketing headquarters. The special celebration —held at Almondco's newly built raw material warehouse in Renmark, South Australia— was attended by 100 guests, including grower members, business partners, local officials, directors and management. The warehouse breezeway was transformed into a magical dining experience. The evening's speakers were Brenton Woolston, Managing Director of Almondco; Tim Whetstone, local member of the South Australian House of Assembly; Nicola Centofanti, member of the South Australian Legislative Council; and Michael Waring, Chairman and Managing Director of MWT Foods. Also in attendance were Melina Morrison, CEO of the Business Council of Co-operatives and Mutuals (BCCM), and Tori Dixon-Whittle, CEO of Food South Australia.

Photo: Almondco.

SHANE OSBORN

CHEF AT ARCANE
AUSTRALIA/HONG KONG

Born and raised in Perth, Australia, Shane Osborn's career spans the globe. While serving as head chef and joint owner at London's Pied à Terre, he became the first Australian chef to be awarded one, and later two, Michelin stars. In late 2011, he relocated to Hong Kong to join Alan Yau's restaurant St Betty. In November 2014, he opened his first solo venture: Arcane, a modern European refined-dining restaurant focused on top-quality cuisine, service and wine. Arcane was first awarded one Michelin star in 2017 and has retained it ever since. He opened his second Hong Kong restaurant, Cornerstone, in 2019. In May 2021, he launched The Arcane Collective, a group of independently minded restaurants that are ingredient-driven and unpretentious as well as socially and environmentally aware.

Photos courtesy of Shane Osborn / Arcane.

How did your early experiences in Australia shape your approach as a chef?

In the 1980s, Australian food culture was based mainly on European cuisines. This led me to travel to Europe as a recently qualified junior chef, eager to see and experience French-based cuisine first hand, which gave me clear direction for my career.

How would you describe the dining experience that you aim to provide at Arcane?

Arcane is an understated, refined, modern European restaurant. The service is personable and friendly. Our wine list has a strong presence from Burgundy. Music plays a big part in our identity, with songs from artists such as David Bowie, Amy Winehouse, The Cure and Fleetwood Mac, plus many other classic tunes.

While at Pied à Terre, you started a rooftop garden to supply the restaurant with fresh produce. Now, in Hong Kong, how do you realize your locavore vision?

Hong Kong's extreme weather makes it very difficult to grow anything! We do have a small 200-square-foot terrace at Arcane, where we try to grow some herbs and edible leaves —with varying success. This, in part, gives our chefs an understanding of the difficulties in farming. We do work closely with some local, organic farms based in the New Territories, close to the China border.

In your opinion, how can nuts and dried fruits improve a dish? What value to they bring to a recipe?

I have always used a lot of nuts and dried fruits in my cooking. They add a unique texture and flavor profile and I appreciate their nutritional value.

In 2018, you participated in the Netflix cooking competition *The Final Table* alongside your friend and fellow Australian chef Mark Best. What was that experience like?

The Final Table was a fantastic experience. One of my highlights —

although not technically a part of the show— was being in the hotel gym in Los Angeles at 6:30 am next to a very cool Lenny Kravitz, who was doing his workout in ripped jeans, cowboy boots and sunglasses. Total legend!

What's next for Chef Shane Osborn? What can you share with us about your plans for the future?

The past 12 months have been a very challenging time for us, and for the hospitality industry in Hong Kong. We are currently focusing on our core businesses: our flagship one-Michelin-star restaurant, Arcane; Cornerstone, a casual Australian bistro on Hollywood Road; and Victuals by The Arcane Collective, a fast-casual concept serving Asian-inspired, health-conscious food, which recently opened in BaseHall, a popular food hall in Central. We are optimistic about the future and hoping to find some new opportunities once the market improves.

QUICK-FIRE ROUND!

What do you enjoy the most about being a chef?

The people in the industry.

What is your personal favorite dish with nuts or dried fruits?

My morning breakfast bowl: homemade muesli including over 15 plant ingredients, such as sunflower seeds, pumpkin seeds, chia seeds, walnuts, almonds, Brazil nuts, dried cranberries and blueberries, topped with almond milk.

What is the next big culinary trend?

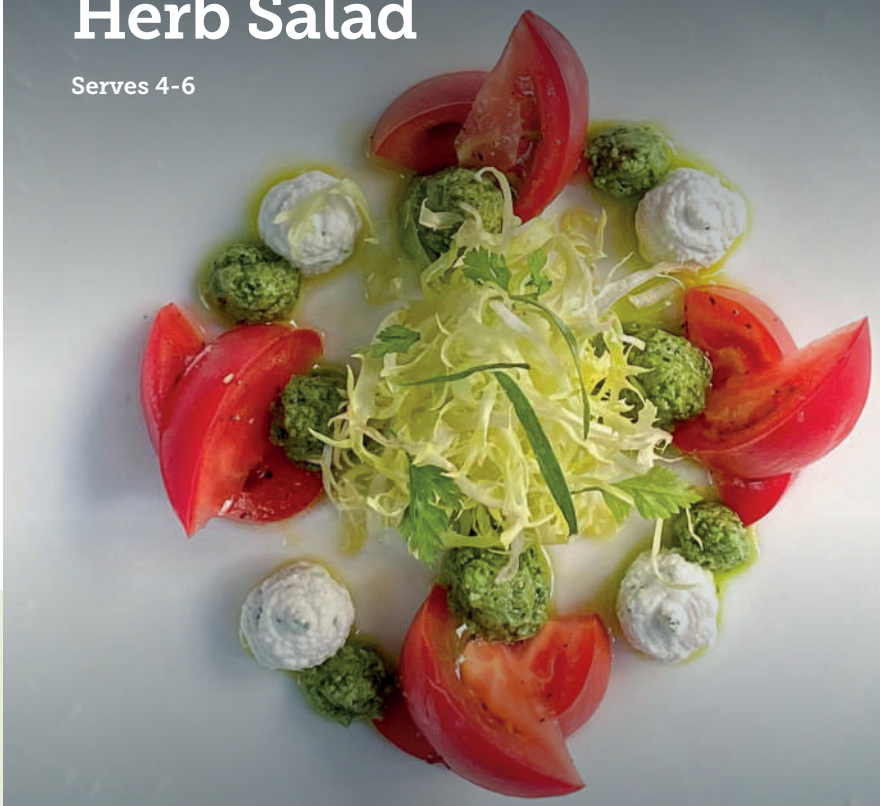
I feel and hope that consumers will continue to look at the nutritional value of what they eat. Nuts, dried fruits and all plants are the cornerstone to a healthy, nutritionally rich eating lifestyle.

What nuts or dried fruits do you always have in your kitchen at home?

I always have peanuts, almonds, macadamias, pistachios, walnuts, Brazil nuts, cashews, dried blueberries, dried cranberries and dried mango.

Japanese Fruit Tomatoes With Cévennes Onion, Macadamia Ricotta, Rocket Pesto and a Fine Herb Salad

Serves 4-6



Onion:

- 2 Cévennes onions (peeled and sliced thinly)
- 1 fresh lime
- 2 tbsp olive oil
- Salt and pepper

Put the oil into a warm saucepan. Add sliced onions, zest and juice of lime, and salt and pepper. Cover with a lid and sweat without color for 5-8 minutes, until al dente.

Macadamia ricotta:

- 150 g macadamia nuts
- 200 g water
- Salt and cracked black pepper
- 1 tbsp chopped chives
- 1 tbsp chopped chervil
- 1 lemon (zest)

Lightly toast the macadamia nuts in the oven at 180°C for 5 minutes. Add the water and bring to a boil. Leave to soak overnight. Reserve 80 g of water. Put the macadamia nuts and remaining liquid into a blender and blend until you obtain the correct consistency. Add more water if needed. Then add the herbs, lemon and seasoning.

Rocket and tofu pesto:

- 75 g rocket leaves
- 50 g tofu (firm)
- 90 g pine nuts
- 85 g light olive oil
- ½ clove garlic
- Pinch of salt
- Pinch of black pepper

Place all ingredients into a blender and blend for 1-2 minutes. Adjust seasoning.

Salad:

- 6 Japanese fruit tomatoes
- 1 small bunch wild rocket
- 1 frisée salad
- 20 tarragon leaves
- 20 chervil sprigs
- ¼ lemon juice
- 2 tbsp olive oil
- Salt and pepper

Cut the tomatoes into wedges and season lightly with salt and pepper. Place the cooked onion on the plate. Add the tomato wedges. Add spoonfuls of macadamia ricotta and pesto. Put the salad leaves and picked herbs into a bowl and dress with lemon, oil, salt and pepper. Place leaves on top of the tomatoes. *Et voilà, bon appétit!*

Sustainability

CAMBODIA: Partnership With EU and Germany to Boost Cashew Industry

The European Union and Germany have partnered with Cambodia on a project to enhance Cambodia's cashew and pepper industries. The EU-German Cambodia Partnership for Sustainable Agriculture and Food Systems (CAPSAFE) project will focus on increasing local value addition, strengthening national systems governing food safety and climate-resilient agriculture, and increasing the capacity of producers and processors to adopt sustainable practices and relevant standards. With US$27 million in joint funding from the EU and Germany, the five-year project will be implemented by the German Society for International Cooperation (GIZ).

CANADA: Federal Plastics Registry

Canada's new Federal Plastics Registry will require businesses to report on the quantity and types of plastic they place on the market each year. Reporting requirements will be introduced in phases. As of 2026, reporting will be required in the agriculture and horticulture category regarding the quantity of plastic in packaging and products. A guidance document is currently being drafted to aid businesses required to report to the Registry.

UK: Sustainability Reporting Standards

In its 2023 green finance strategy, the UK government laid plans for assessing the endorsement of two standards of the International Financial Reporting Standards (IFRS) Foundation —namely *General Requirements for Disclosure of Sustainability-related Financial Information* (IFRS S1) and *Climate-related Disclosures* (IFRS S2). If endorsed, these would become the first UK Sustainability Reporting Standards. The government aims to make a decision by the first quarter of 2025.

USA: New Traceability Recordkeeping Requirements for Certain Foods

New requirements are set to come into effect on January 20, 2026, under the U.S. Food and Drug Administration (FDA) final rule on Requirements for Additional Traceability Records for Certain Foods (Food Traceability Final Rule). This rule establishes traceability recordkeeping requirements, beyond those in existing regulations, for persons who manufacture, process, pack, or hold foods on the Food Traceability List, which includes nut butters.

Trade

AFRICA: Tripartite Free Trade Area Comes Into Effect

On July 25, 2024, the Tripartite Free Trade Area (TFTA) came into effect, allowing 14 countries —Angola, Botswana, Burundi, Egypt, Eswatini, Kenya, Lesotho, Malawi, Namibia, Rwanda, South Africa, Uganda, Zambia and Zimbabwe— to trade freely in a single commerce bloc.

EAST AFRICA: Standards on Raw In-shell Macadamias, Cashew Flour and Peanut Flour

Burundi, Kenya, Rwanda, Tanzania and Uganda have notified the World Trade Organization (WTO) that the draft East African Standards on raw in-shell macadamias, cashew flour and peanut flour were adopted by the East African Community Council of Ministers on June 14, 2024.

BRAZIL: Nuts Gain Market Access in Several Countries

Brazil has received sanitary approvals to export dried macadamias to Angola and South Korea and to export processed dried macadamias to Australia and the United Kingdom, according to a statement from the Brazilian Ministry of Agriculture and Livestock. This move follows the approval in June of sanitary and quarantine requirements for the import of Brazilian pecans into China.

CHINA: Zero-Tariff Agreement for Mozambican Macadamias and Cashews

Thanks to a new agreement signed on September 3, 2024, macadamias and cashews from Mozambique can now be imported tariff-free into China. The agreement is valid for three years and can be renewed automatically.

CHINA: Guatemalan Macadamia Shipments Entering China Normally

After multiple containers of Guatemalan macadamias were denied entry into China in May, by late August shipments were entering China without incident, according to a statement given by Guatemala's Deputy Minister for Integration and Foreign Trade, Hector Marroquín, to the Guatemalan media outlet Azteca Noticias.

EU: Concerns on Aflatoxin Contamination in Iranian Pistachios

On October 18, 2024, at an event in Brussels, Belgium, organized under the umbrella of FRUCOM-CEEREAL, officials from the European Commission's DG for Health and Food Safety (DG SANTE) took part on a panel discussion on import control measures (Regulation 2019/1793). Participants expressed concern over a potential ban on the import of Iranian pistachios due to aflatoxin risk —which is slated for discussion in November according to FRUCOM. Iranian pistachios are currently placed in Annex II of the Increased Controls Regulation, subject to 50% checks.

INDONESIA: New Import Requirements for Agricultural Shipments

Earlier this year, the Indonesian Quarantine Agency (IQA) announced that exporters will be required to submit a "prior notice" in the IQA's new system before shipping any agricultural commodities to Indonesia. The new requirements came into effect on October 6, 2024.

KENYA: Macadamia Export Ban Extended for Six Months

The government of Kenya has decided to extend a grace period allowing the export of raw macadamia nuts for an additional six months, as reported by *Nation* in late September. The move came less than two months before a ban on macadamia exports was set to resume on November 2, 2024.

UKRAINE-UK: Free Trade Agreement

On August 22, 2024, the Ukrainian Parliament ratified the Political, Free Trade and Strategic Partnership Agreement between Ukraine and the United Kingdom. This agreement envisages full trade liberalization between the two countries for the next five years.

USA: USDA Expands Insurance Options for Specialty and Organic Growers

The U.S. Department of Agriculture (USDA) has announced the expansion of crop insurance options for specialty and organic growers beginning with the 2025 crop year. Changes affecting nuts and dried fruits include the following:

- Enterprise units will be expanded to include almonds, macadamias, walnuts, figs and prunes
- Enterprise units will be allowed by organic farming practice for almonds, macadamias, walnuts, figs and prunes
- Sunburned damaged walnuts will be eligible for indemnity payments through quality adjustment
- Insurance coverage will be expanded to younger almond trees by including trees in their fifth leaf year after being set out

Food Safety

AUSTRALIA: Products Containing Chlorthal Dimethyl Cancelled

In October, the Australian Pesticides and Veterinary Medicines Authority (APVMA) cancelled all 12 products containing the herbicide chlorthal dimethyl, citing an immediate risk of serious injury or illness resulting from the use of these products. Farmers and retailers may continue to hold product until further notice, but must not use it. The use of chlorthal dimethyl as an agricultural chemical product is now illegal.

EU: New MLs for Nickel in Nuts

On July 31, 2024, the *Official Journal of the European Union* published Commission Regulation (EU) 2024/1987 establishing new maximum levels (MLs) for nickel in certain foodstuffs, including 10 mg/kg in Brazil nuts, cashews, pine nuts and walnuts, 3.5 mg/kg in other tree nuts, and 12 mg/kg in peanuts. The new rules shall apply from July 1, 2025. In the case of tree nuts, the ML applies to the edible part of the nut. It does not apply to tree nuts for crushing and oil refining, provided that the remaining pressed tree nuts are not placed on the market as food. Moreover, the European Commission recommended that Member States, in collaboration with food business operators, should monitor the presence of nickel in food —including nuts and nut spreads— during the years 2025, 2026 and 2027.

EU: EFSA Collecting Data on *Alternaria* Toxins

The European Commission recommended that EFSA gather data on *Alternaria* toxins —alternariol, alternariol monomethyl ether and tenuazonic acid, among others— in foodstuffs including tree nuts and dried figs. Member States and food operators should provide to EFSA, by June 30 of each year, *Alternaria* toxin occurrence data from the previous year. No deadline has yet been set for the establishment of a maximum level.

EU: Guide on MOSH/MOAH Regulations

COLEAD/AGRINFO has published an EU-funded guide entitled *Mineral Oil Hydrocarbon in Foods: An Introduction to Upcoming EU Regulation*. The guide aims to help suppliers in non-EU countries to prepare for compliance with new EU rules limiting the presence of mineral oil hydrocarbons in food that will be implemented in 2025.

USA: New Allergen Verification Sampling Program

On August 1, 2024, the U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS) implemented a new allergen verification sampling program at establishments that produce ready-to-eat products with labeling that claims the absence of at least one of 14 food allergens. The purpose of the program is to expand verification of industry compliance with labeling regulations. The allergens included in the new program include peanuts, almonds, Brazil nuts, cashews, hazelnuts, macadamias, pine nuts, pistachios and walnuts.

Labeling

USA: Hawaii Adopts New Labeling Requirements for Macadamias

On July 3, 2024, the Governor of Hawaii signed a bill that increases transparency in macadamia nut labeling by requiring products containing nuts grown outside Hawaii to disclose this fact on the label. The bill also prohibits misleading "Hawaii-grown" claims and envisages stringent enforcement measures and penalties for violations.

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Assisted Pollination in Pistachio Trees: Getting Ahead of Climate Change

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In spring, pollen from the male pistachio tree must be carried by the wind to the female plant. This process is subject to multiple climatic variables, and a disruption in any of them can ruin a harvest. The practice of assisted pollination by mechanical means, including agricultural drones, provides a way to get ahead of this problem.

The pistachio tree is dioecious, meaning that male and female flowers are produced on different individuals. In other words, pistachio trees have separate sexes, like animals. Therefore, on a pistachio plantation, temporal synchrony is needed to ensure that pollen reaches the female flowers when they are receptive. These few crucial days determine the success of the campaign.

In many production areas, the male varieties have started to flower earlier in the spring than the females. This especially happens in years in which the winter is mild, with fewer hours of cold than usual —an increasingly frequent occurrence, due to climate change. This temporal mismatch between male and female can ruin a harvest, underscoring the importance of choosing the right varieties for a plantation so that the necessary overlap occurs.

However, the lack of proper pollination can also be due to other causes. For example, strong winds and persistent rains make it difficult for pollen to be transported on key days, and fungal infections can rot male flowers. Poor pollination and fruit set can also simply be due to the lack of a sufficient number of males, the minimum percentage being 4%–8% of the trees on a given plantation.

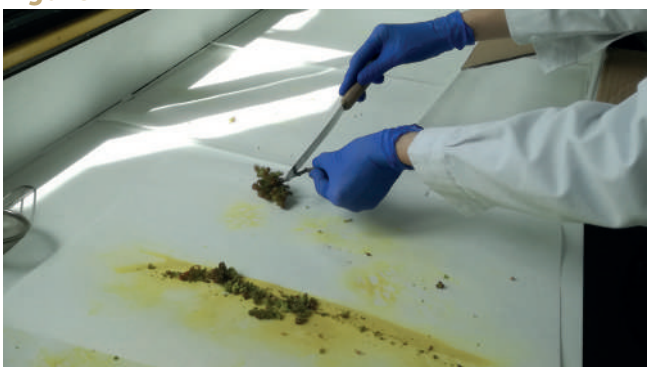
In order to get ahead of these problematic situations, the practice of assisted pollination of pistachio trees by mechanical means, including agricultural drones, is being studied in various fields. Assisted pollination is also traditionally practiced in producing countries such as Iran and Türkiye, although in most cases only as an occasional support for natural pollination.

The first step is to extract the pollen from the early-flowering male flowers and store it until it is needed (Figures 1 and 2). Although pollen can be stored for long

Figure 1

Male flowers ready for pollen extraction.
Photo: Esaú Martínez.

Figure 2



Extraction of the pollen.
Photo: Esaú Martínez.

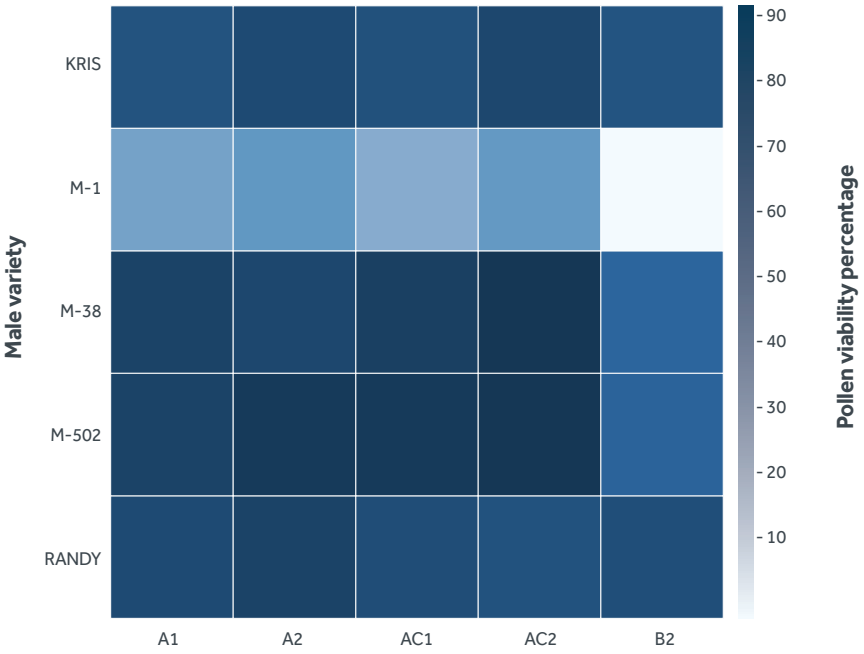
periods of time under ultra-freezing conditions, in practice it is only stored for a few days or weeks. The pollen is then released onto female flowers when they are receptive. Pollen is an easily perishable product and loses its germination power extremely quickly. Therefore, studying the optimal storage conditions is essential to the development of this technological application.

Initial studies carried out by the El Chaparrillo Research Center in Spain have established that storing pollen at 4°C for two weeks does not affect its viability, and in fact has the same preservative effect as lower temperatures (-18°C). Under these conditions, around 85% of the collected pollen grains remain alive.

However, high temperatures, environmental humidity and direct sunlight deteriorate the pollen, causing it to progressively lose its germinative capacity. Flowers that are just beginning to open have greater power to fertilize than those collected in the following days. It has also been observed that pollen grains from some male pistachio varieties have high germinative power (>85%), whereas some interspecific hybrids of the *Pistacia* genus —individuals resulting from the cross between parents of different species of this botanical genus— such as the M-1 male, have a viable pollen grain percentage of only 50% (Figure 3).

Figure 3

Storage conditions.
A1: one week at 4°C. A2: two weeks at 4°C. AC1: one week at -18°C. AC2: two weeks at -18°C.
B2: two weeks at 4°C, pollen harvested 3 days after flower opening.



The second step of this technique is to apply the pollen in the orchard. Although this can be done by simply placing pollen in porous bags distributed throughout the plantation and waiting for the wind to do its work, it is increasingly common to apply pollen by some mechanical means that facilitate dispersion. In any case, the pollen is previously diluted in another inert substance, such as talcum powder, which acts as a matrix and supports the product to make its application easier. Even more novel is the dilution of the pollen in a liquid matrix of water and nutrients that facilitate the adhesion of the pollen grain to the stigma of the flower and its subsequent germination and emission of the pollen tube to the ovule of the flower.

To disperse the pollen by mechanical means, manual spray backpacks are used as well as atomizers with location sensors, which use air or water to disperse the product every 3-4 days throughout the flowering phase of the females. In an attempt to reduce costs, the El Chaparrillo Research Center, in collaboration with companies in the precision agriculture sector, is studying the real possibilities of using drones to apply cold-preserved pollen (Figure 4). Variables being studied include the physical properties of the matrix that supports the pollen, the technical characteristics of the drone's tank, the flight height of the drone, and the minimum number of passes necessary to achieve a higher percentage of pollinated flowers.

In the coming years, a great boom is expected in this type of technology for applying agricultural inputs using drones, which will reduce costs and expenditure of products as compared to conventional machinery. Drone-assisted pollination was initially developed to complement natural pollination in those sporadic cases in which natural pollination fails due to an increasingly changing climate. However, since this technique represents a clear reduction in costs and an increase in harvests —given that it makes it possible to do without males and have 100% productive females in the orchards— it is very likely that this technique will end up replacing natural pollination completely in the future.

Figure 4

Drone applying pistachio pollen on the crop.
Photo: Quino Cayuela.

Climate-Smart Practices in California Almond Orchards

Cover crop. Photo: Blue Diamond Growers.

Using funding from the USDA Partnerships for Climate-Smart Commodities Program, awarded to and administered by Blue Diamond Growers, participating farmer-owners of the cooperative have planted cover crops in over 17,000 acres of almond orchards in California. This project was a finalist for the 2024 INC Excellence in Sustainability Award – Back to the Planet.

Blue Diamond Growers, a farmer-owned almond producing cooperative in California with approximately 3,000 members, launched the Climate-Smart Program in 2023 thanks to US$45 million in funding from the USDA Partnership for Climate-Smart Commodities Program. This five-year project supports expanded adoption of climate-smart practices in almond orchards and increases the on-farm biodiversity for pollinators and wildlife.

The first year of the Climate-Smart Program focused on cover cropping, the practice of planting a temporary crop —typically flowering species— between the orchard rows after harvest with termination in the spring. Blue Diamond Growers set a target for participating farmer-owners of planting cover crops in 10,000 acres of almond orchards in the first year. After the 2023 harvest, farmers taking part in the program were provided with cover crop seed at no cost as well as a financial incentive to plant the cover crops.

The response from the 91 participating growers exceeded expectations. By February 2024, cover crops had been planted on over 17,000 acres (6,880 ha) of almond orchards across 91 farms, an area of land larger than the island of Manhattan.

Benefits of Cover Crops

Research by the University of California and state agencies has highlighted the multifaceted benefits of using cover crops in almond orchards. First, by adding organic matter to the soil, cover crops are a means of sequestering carbon out of the atmosphere. This carbon is stored in the plant biomass above and below ground, with the aim to store that carbon in the soil. The total amount of CO_2 captured and stored long term can vary based on temperature, moisture, soil type and cultural practices by the farmer.

Further, the practice of planting cover crops also increases plant and insect biodiversity. Appropriate cover crop species can provide pollen and nectar to native and commercial pollinator species, enhance biodiversity and make additional nutritional resources available to these vulnerable populations. Like many other crops, almonds rely on insect pollination, primarily from honeybees, which have been negatively impacted in the United States by introduced parasites and diseases. Researchers have concluded that almond farmers can support pollinator health by providing diverse sources of pollen and nectar in the orchard. Carefully selected cover crops are a key tool for farmers to provide that pollen and nectar. The cover crop species mixes used in the Climate-Smart Program were selected by Project *Apis m.*, a

bee-health focused non-governmental organization and partner in the Climate-Smart Program. The mixes are picked for their nutritional value to honeybees and other pollinator species, thereby enhancing pollinator health while also increasing the plant and insect biodiversity of the orchards.

Cover crops can also support farmers in building climate change resiliency by improving soil health and water conservation. Given the anticipated increase in rainfall variability due to climate change in California, resiliency to both dry and wet conditions is crucial to maintaining almond production. As documented by the University of California, cover crops increase water's ability to infiltrate orchard soils, combating both drought and excess rainfall conditions by letting soil capture and hold more moisture. Root channels and organic matter created by cover crops can help improve soil water infiltration, thereby reducing runoff potential and increasing water retention during droughts and heavy rainfall.

Last but not least, cover cropping can also lead to economic benefits. In addition to the financial incentives provided under the umbrella of the USDA program, research suggests participating growers may also see a decrease over time in their need for fertilizer and/or pesticide inputs, depending on the seed mix used and the orchard site characteristics.

Conservation cover. Photo: Blue Diamond Growers.

Hedgerow. Photo: Blue Diamond Growers.

Looking Ahead

In addition to cover cropping, the five-year project includes the option for growers to implement conservation cover and hedgerows.

Conservation cover utilizes perennial vegetative plants to prevent soil erosion and capture water on idle, fallow or marginal land. Also known as "bee pasture," these plants can provide several year-round benefits for pollinators and other beneficial insects. Conservation cover is intended to be a permanent installation. It is meant to be minimally managed for weeds in order to preserve the wildlife benefits and mitigate costs. Under the Climate-Smart Program, growers will receive seeds at no cost in addition to an implementation incentive on a per-acre basis.

Hedgerows are permanent, perennial plantings composed primarily of woody shrubs and trees in linear fashion along an orchard that provide several year-round benefits to the orchard, pollinators and other beneficial insects. They are typically planted in the fall so that roots can establish over winter. A number of species can be used for hedgerows, including drought-tolerant, California native plants. The Climate-Smart Program will provide no-cost plants as well as an implementation incentive on a per-linear-foot basis.

The Climate-Smart Program builds upon Blue Diamond Growers' successful Orchard Stewardship Incentive Program (OSIP), which pays participating farmer-owners more per pound of almonds for engaging in specific sustainable agriculture efforts. Through these initiatives, the cooperative has been able to foster stronger relationships with new and existing supply chain partners and expand the support for almond growers' orchard stewardship efforts.

Modular Green Nitrogen Fertilizer Production: An Elixir of Life for the Kenyan Macadamia Industry

Kenya Nut Company partnered with Talus Renewables to install Africa's first commercial zero-carbon green ammonia production system. This project was a finalist for the 2024 INC Excellence in Sustainability Award – Back to the Planet.

Stakeholder training session to prepare for the use of the ammonia fertilizer.
Photo: Kenya Nut Company.

Fertilizer plays a crucial role in enhancing food security and feeding approximately half of the global population. Most of the world's fertilizer is produced in large plants in developed countries, requiring a complex, expensive and unreliable supply chain to reach farmers in sub-Saharan Africa. The growing demand for fertilizers and volatile input costs has driven historic price increases and volatility, even in the developed world. Products must travel long distances before they reach farmers in Africa, generating significant upstream carbon emissions and long lead times, disrupting supply chains and limiting crop yields. Grey ammonia, produced using hydrogen extracted from natural gas, accounts for an estimated 2% of all carbon emissions worldwide. For every metric ton (MT) of urea produced, 1.42 MT of CO_2 is released into the environment. Importing 1 MT of urea into Kenya generates approximately 4.5 MT of carbon emissions.

To address these challenges, Kenya Nut Company partnered with Talus Renewables in 2023 to install a modular autonomous anhydrous ammonia production facility on its agricultural premises in Kenya, marking the first commercial deployment of a zero-carbon green ammonia system anywhere in Africa. Powered by renewable solar energy, the facility utilizes innovative technology to produce ammonia fertilizer on site, with the aim of increasing accessibility, minimizing emissions and boosting macadamia production.

Objectives

The primary objective of the project was to improve access to quality fertilizer by establishing a local production facility, making this critical product more readily available to local macadamia farmers. Elimination of a long and unpredictable supply chain cuts costs for farmers' inputs, while also providing peace of mind.

The project also sought to enhance food security and agricultural productivity, with a specific focus on macadamia production. Access to high-quality green ammonia fertilizer allows farmers to improve soil fertility, increase crop yields, and contribute to food security and economic development in the region.

Another key objective was to reduce carbon emissions associated with traditional fertilizer production and distribution methods. By utilizing solar power and locally available raw materials, the modular system significantly decreases emissions normally associated with large-scale fertilizer operations.

Methodology

The project involved the installation of modular autonomous ammonia production units on a Kenya Nut Company farm. Using advanced algorithm technology and solar energy, the facility synthesizes ammonia from water and atmospheric air. The production process is optimized for efficiency and sustainability, with a focus on minimizing waste and environmental impact.

Capacity-building activities have been organized for local farmers, government and community members, with a view to ensuring safe and effective operation and maintenance of the green ammonia production and application

units. Training sessions have covered topics such as safe transportation, fertilizer application techniques, emergency response and sustainable agricultural methods.

Anhydrous ammonia fertilizer plant at Kenya Nut Company. Photo: Talus Renewables.

Outcomes

Installation of the anhydrous ammonia plant was completed in 2023 and usage of the fertilizer commenced in March 2024. Since then, the impact of the project has become clear.

- **Improved fertilizer accessibility and affordability:** On-site modular production facilities enhance access to ammonia fertilizer by eliminating a long, costly and pollution-heavy supply chain, empowering farmers to increase agricultural productivity and improve their livelihoods.
- **Increased macadamia production:** With reliable access to high-quality ammonia fertilizer, higher crop yields for farmers contributing to food security and economic development is a reality.
- **Carbon-free fertilizer:** Air, water and solar power are harnessed to produce green ammonia in a manner that is free of carbon emissions, providing a major boost to Kenya Nut Company's emissions-neutral Out of Africa macadamia brand.

The facility has a production capacity of 1 MT of green ammonia per day. Based on an estimated annual production capacity of 200 MT, the project will prevent more than 900 MT of carbon emissions per year. The project is expected to supply 750,000 trees with nitrogen fertilizer across 3,500 hectares of farmland.

> *"By utilizing solar power and locally available raw materials, the modular system significantly decreases carbon emissions normally associated with large-scale fertilizer operations."*

Kenya Nut Company acquires the fertilizer at <50% of the market rate, with zero transportation cost. The product is readily available for use on the farms, making macadamia farming stress-free and promoting health and well-being for the farmers. Ten new jobs have been directly created in the areas of operations and maintenance and a further 50 jobs are expected to be created indirectly.

The project has led to discussions with new strategic partners and stakeholders on rolling out production capacity to meet the fertilizer needs of neighboring smallholder communities, potentially boosting macadamia and food production for over 10,000 local farmers. Ripple effects could be felt across Kenya —where over 200,000 farmers are involved in macadamia production— and beyond.

Green anhydrous ammonia has a nitrogen content of 82%, compared to 46% for urea. Because of this, it achieves better results with less volume, since ammonia fertilizer requires a lower rate of application. Ammonia's ability to adsorb into the soil means that it can provide nitrogen to crops over a longer period, reducing the frequency of application as well as labor costs. Because it is less susceptible to leaching, ammonia also helps prevent nitrogen runoff and groundwater contamination, contributing to environmental conservation efforts.

Conclusion

This green ammonia production system holds the potential to improve macadamia nuts yields, optimize nutrient and resource utilization, and boost engagement and capacity-building with the local community. The project is aligned not only with the Sustainable Development Goals but also with Kenya Nut Company's sustainability commitment of investing for the long term.

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Leading With Integrity: A Coconut Processor's Commitment to Sustainable Practices

Primex Coco Products Inc., a leading name in the coconut industry, was awarded the 2024 Best Corporate Social Responsibility Program Award by the Philippine Coconut Authority. This prestigious award underscores Primex's unwavering commitment to sustainability and its significant impact on the lives of its employees, farmers and surrounding communities.

Based in Quezon province, the heart of Philippine coconut country, Primex Coco Products Inc. produces coconut water concentrate, desiccated coconut, extra virgin coconut oil and coconut flour. The company is a subsidiary of the Primex Group of Companies, which processes over 8.5 million pieces of coconut a day, making it the world's largest user of coconut as a raw material.

Aligning with the United Nations Sustainable Development Goals (SDGs), Primex has developed a comprehensive CSR program through its Isle De Coco Foundation. This program addresses critical issues faced by coconut farmers and their families, ranging from safety and health to education and food security.

Personal Protective Equipment

Project Kalinga.

Recognizing the need for safety in the workplace, Primex has provided essential personal protective equipment to coconut farmers. Through an initiative known as Project Kalinga, Primex aims to reduce workplace accidents and enhance safety for the farmers. To date, 10,000 pairs of rubber boots, 8,500 raincoats and 60 hard hats have been distributed to coconut farmers across the Philippines.

Health and Wellness Projects

Coco Health Card program.

Primex's Reseta Exchange program provides free maintenance medications for diabetes and hypertension, helping farmers manage these chronic conditions. By ensuring consistent and timely access to medication, the program has prevented severe health issues and improved the overall well-being of the farmers.

The Coco Health Card program is a community-based healthcare initiative that offers free regular doctor consultations and medications to coconut farmers. By focusing on preventive healthcare, this program has effectively reduced the financial burden of medical care on farmers and improved their health outcomes.

Farmers are encouraged to visit local doctors three times a year. The health card makes it possible to track their check-up records, medications and tests, enabling comprehensive care. Maintenance medication is also provided for those who need it, ensuring that coconut farmers stay healthy and strong.

Accident and Death Insurance

Coconut farmers typically lack access to social protections such as medical and accident insurance. Primex's Project Kasiguruhan addresses this gap by offering free accident and death insurance. A total of 8,408 coconut farmers benefited from this program in 2024. This initiative provides medical reimbursements for in-hospital procedures and financial support to families in the event of a farmer's death, helping them avoid further debt and providing a much-needed financial safety net.

Food Security: Backyard Farming

Backyard Farming project.

To combat food insecurity, Primex has initiated a backyard farming project, providing tools and high-value crops to farming families. This initiative ensures that families have access to nutritious food, especially in areas frequently affected by typhoons.

Zero Child Labor

Child labor remains a significant issue in the agriculture sector. Primex's Zero Child Labor campaign aims to eliminate this practice from its supply chain by 2025. Through education, awareness and livelihood support, the company is working to eradicate child labor, ensuring that children in farming communities can focus on their education.

Coconut Replanting

Replanting coconut trees.

Addressing the issue of aging coconut trees, Primex's replanting project provides farmers with seedlings to replace old, less productive trees. The program targets the planting of 6,000 to 7,000 coconut trees in 2024, ensuring the long-term sustainability of coconut farms.

> *"The program addresses critical issues faced by coconut farmers and their families."*

Educational Assistance

Educational assistance.

Primex supports the education of farmers' children through the provision of school supplies, allowances and nutrition subsidies. The program has resulted in improved academic performance for 71% of the participating students.

Solar Light

Solar light installation.

In partnership with the Coconut Coalition of the Americas (CCA), Primex has installed solar light kits in 373 homes of coconut farmers through the Lighting Up Lives project. This project has enhanced the safety and security of households that previously had no access to electricity and enabled children to study after dark, even during the pandemic.

Farm Sustainability Project

Launched in 2024, this program focuses on revitalizing soil health through regenerative farming practices. By increasing farm biodiversity, the program aims to reach 1,000 coconut farmers, promoting long-term agricultural sustainability.

FarmKO: A Model of Sustainable Agri-Tourism

One of the key beneficiaries of Primex's CSR program is FarmKO, a sustainable farm located in Dolores, Quezon province. FarmKO has emerged as a hub for sustainable agriculture and aquaculture, and it has recently become a popular agri-tourism destination offering farm-to-table and various outdoor experiences.

Primex's support has enabled FarmKO to expand its operations and enhance its sustainability initiatives. As FarmKO continues to grow, it is poised to develop a 200-hectare agri-tourism property in Dolores. This project will further establish FarmKO as a leader in sustainable agri-tourism, attracting visitors from across the country and beyond. The official launch of this development is expected to be announced soon, marking a significant milestone in the growth of sustainable tourism in the Philippines.

All photos courtesy of the Primex Group of Companies.

“Australian almonds are one of my favourite ingredients because of their versatility in sweet or savoury dishes and the thing I reach for when I’m peckish during the day.”

Poh Ling Yeow,
Australian Almonds Ambassador,
Acclaimed chef and
TV personality

australian almonds

Country/Product Spotlight

Almonds & Australia

Industry Highlight
An overview of production, trade and consumption

A Multi-Cultivar Low to Medium Planting Density Optimisation Trial for Almond
Experiments at the Almond Centre of Excellence show promise for increased production efficiencies

Health Benefits of Almonds
Learn about the nutritional virtues of this tasty nut

New Product Launches
Insights into new products that utilize almonds

This Country/Product Spotlight is the 15th in a series of industry and market overviews in *Nutfruit* magazine. This report provides a snapshot of the almond industry in Australia, with data, analysis and trends.

We would like to thank the Almond Board of Australia for their collaboration on this edition.

Industry Highlight

The Australian Almond Industry in Numbers

58,600 ha
bearing planted area

84%
of Australian tree nut production

22 M
trees planted

50+
importing countries

43,600 MT
in-shell exports, 5-year average*

60,000 MT
kernel exports, 5-year average*

153,550 MT
production (2024/25 estimate)

* 2019/20–2023/24

Production

The Australian almond industry traces its history back to 1836, when the first almond trees were planted on Kangaroo Island.[1] By the early 1900s, commercial almond production had spread across the Adelaide Plains in South Australia.[2] The industry has expanded significantly in recent years and, according to the Almond Board of Australia, now contributes approximately 10,000 jobs to the country's economy. New plantings have increased considerably in the 21st century (Figure 1), with the total planted area doubling between 2015 and 2022 (Figure 2). By 2023, the decade-long planting boom had leveled off, with the total number of planted hectares standing at 64,192, of which 58,579 were bearing and 5,613 were non-bearing. Today, Australia is home to nearly 22 million almond trees, and almonds account for 84% of the country's total tree nut production (kernel weight equivalent).[1]

Figure 1. New Almond Plantings in Australia by Region, 1995-2022, Hectares
Source: Almond Board of Australia, based on data from Land IQ.

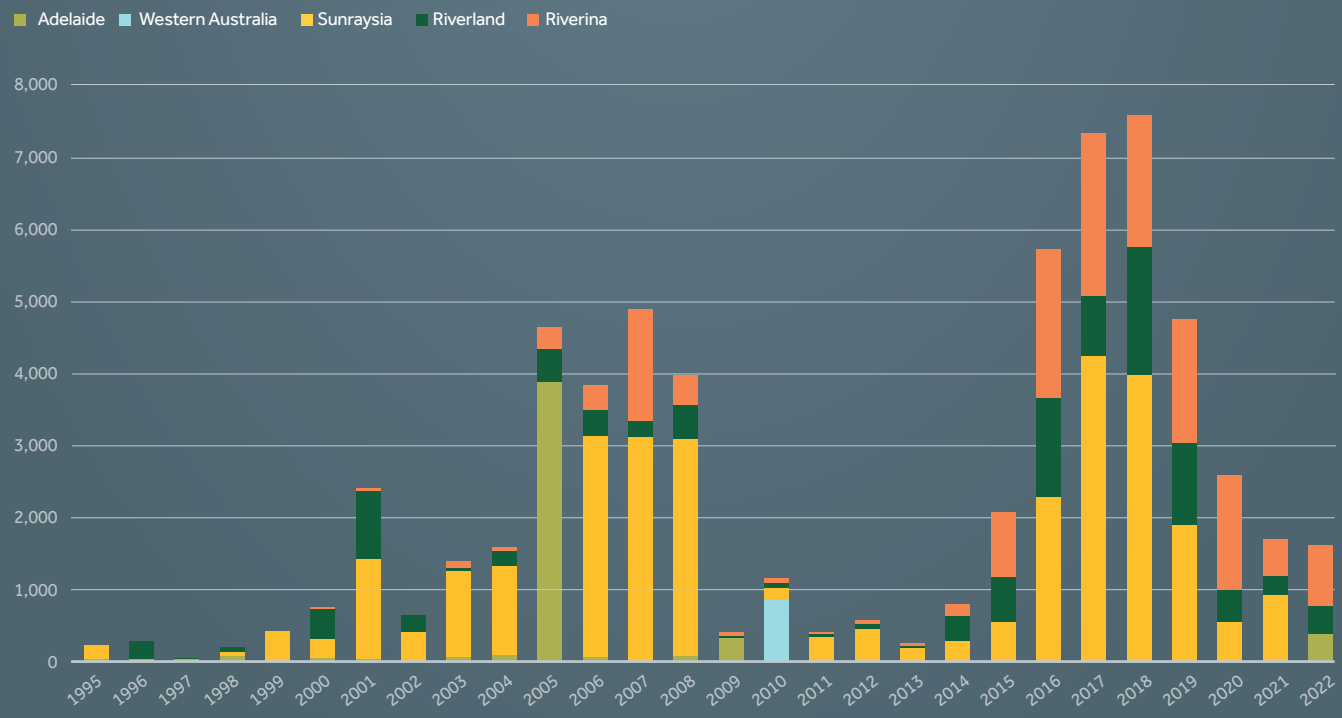
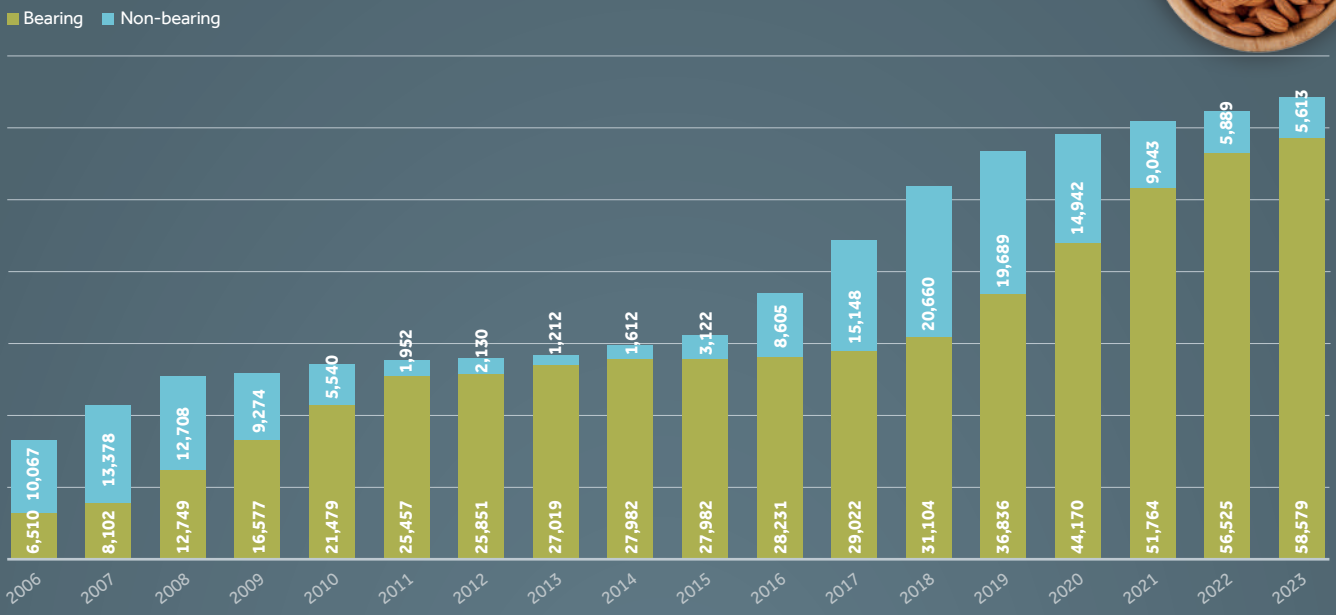


Figure 2. Total Australian Almond Planted Area, 2006-2023, Hectares

Source: Almond Board of Australia.



Australia's almond orchards are primarily concentrated in the Sunraysia region, which accounts for more than half of the total planted area with 34,863 ha, followed by Riverina with 15,360 ha and Riverland with 11,874 ha. The Swan region in Western Australia, with 822 ha, is the most recent area to be planted commercially. The traditional Adelaide Plains growing district, with 717 ha, may begin to disappear[3] in the coming years as urban sprawl from the Adelaide metropolitan area results in cropland being sold to housing developers (Figure 3).

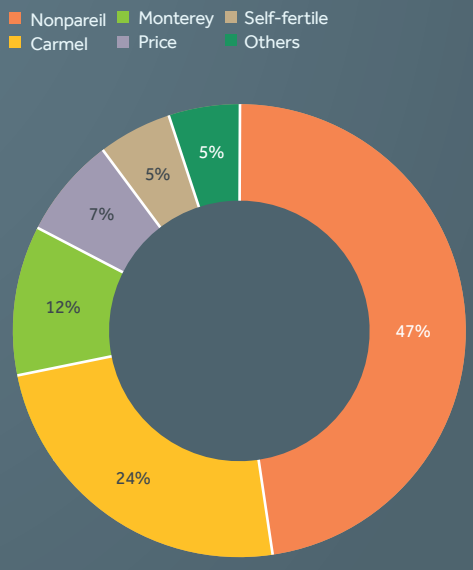
Australia's most common almond variety is Nonpareil, which accounts for 47% of the total planted area, followed by Carmel (24%), Monterey (12%) and Price (7%) (Figure 4). Self-fertile varieties such as Shasta, Independence and Carina have gained popularity in recent years as pollination costs have become an increasingly important consideration.[3]

Figure 3. Australian Almond Orchard Plantings by Region

Source: Almond Board of Australia.

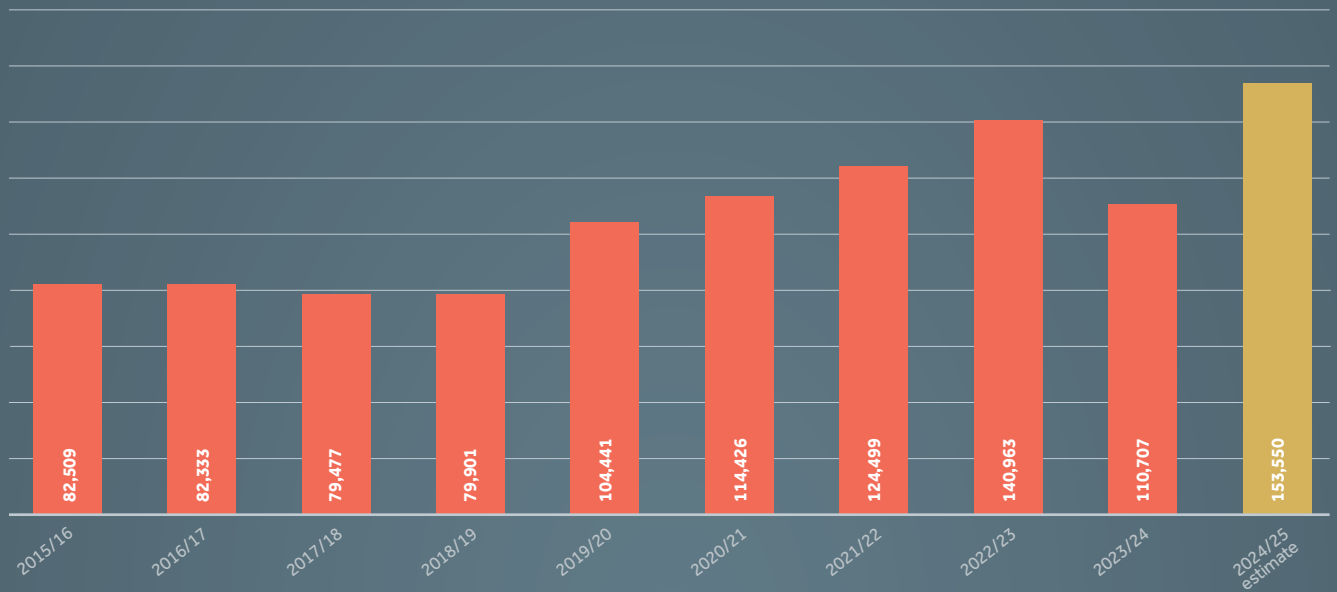
Figure 4. Australian Almond Plantings by Variety

Source: Almond Board of Australia.



Between 2019/20 and 2023/24, Australia produced an average of 119,007 MT of almonds (kernel basis) per year. Production peaked in 2022/23 at 140,963 MT up 13% from the previous year, before dipping to 110,707 MT in 2023/24 due to adverse conditions during pollination, a cool summer and a wet harvest.[1] However, production is expected to rebound in 2024/25 with a record crop of 153,550 MT (Figure 5). The state of Victoria accounted for 45% of production, followed by South Australia with 29%, New South Wales with 25% and Western Australia with 1%.[1]

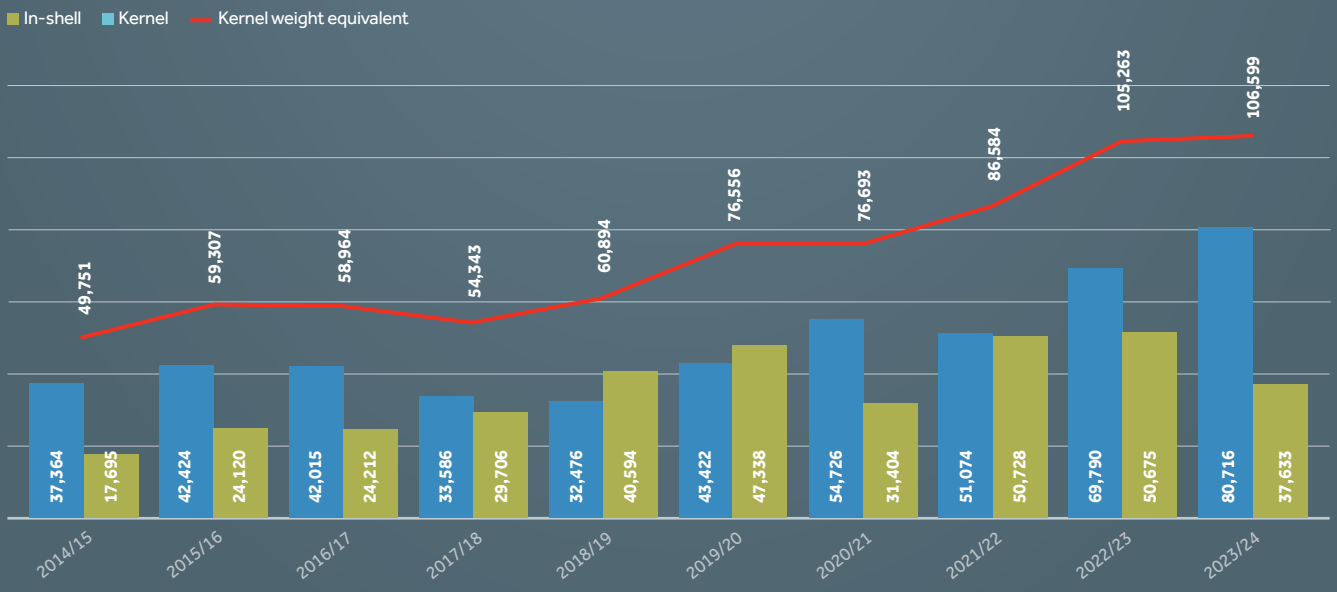
Figure 5. Australian Almond Production, Kernel Basis, Metric Tons
Source: Almond Board of Australia.



Trade

Australian almonds are shipped to more than 50 countries across the globe. Over the past five years (2019/20–2023/24), international shipments averaged 43,556 MT for in-shell almonds and 59,946 MT for almond kernels. Exports have risen steadily over the past decade, with a compound annual growth rate of 9% between 2014/15 and 2023/24. Total export shipments amounted to 118,349 MT in 2023/24, with kernels accounting for 68% of the total (Figure 6). Free trade agreements negotiated by the Australian government, notably with China and India, have played a key role in the rise of Australian almond exports in recent years.[1]

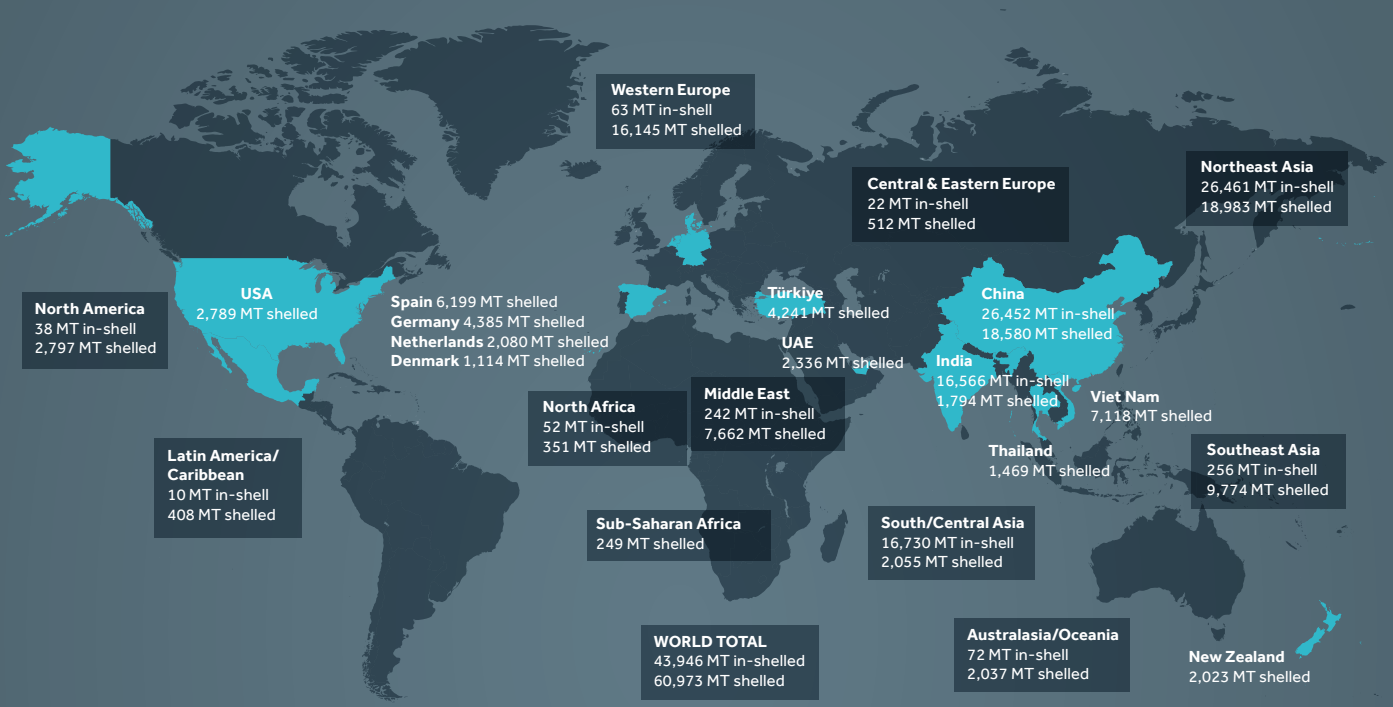
Figure 6. Total Australian Almond Export Shipments, Metric Tons
Source: Almond Board of Australia.



China and India are, by far, the biggest markets for in-shell Australian almonds. Between 2019/20 and 2023/24, Australia's in-shell almond shipments to China and India averaged 26,452 MT and 16,566 MT, accounting for 60% and 38% of the country's in-shell exports, respectively. China is also the biggest destination for Australian almond kernels, with a five-year average of 18,580 MT or 30% of the global total. The second-biggest destination for kernels is Viet Nam with 7,118 MT (12%), followed by Spain with 6,199 (10%), Germany with 4,385 (7%) and Türkiye with 4,241 MT (7%) (Figure 7).

Figure 7. Top Destinations of Australian Almonds, 5-Year Average, Metric Tons

Source: Almond Board of Australia, INC database.



Consumption

Domestic consumption has remained roughly stable in recent years, peaking in 2020/21 at 29,114 MT (kernel weight equivalent). The average annual consumption over the last five seasons was 26,363 MT (KWE). Consumption in 2023/24 was 24,423 MT, 23% higher than a decade earlier (Figure 8). Per capita consumption was estimated at 0.92 kg in 2023/24.[4]

Figure 8. Australian Domestic Almond Consumption, Kernel Weight Equivalent, Metric Tons

Sources: Almond Board of Australia.

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A Multi-Cultivar Low to Medium Planting Density Optimisation Trial for Almond

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The South Australian Research and Development Institute (SARDI) has established several large-scale experiments at the Almond Board of Australia's Almond Centre of Excellence. Research targets include optimising planting density, screening genotype compatibility, and assessing soil amendments, water productivity and drought tolerance.

Introduction

Australian almond plantings currently exceed 60,000 hectares and are expected to increase by another 10% over the coming three to five years. Most Australian plantings have been established at low densities, resembling traditional Californian production systems. While Australian producers are increasingly interested in the development of super-high-density production systems (>800 trees/ha), an easier step for many remains the progression from lower densities (about 300 trees/ha) to medium-high densities (about 600 trees/ha). Growers can achieve these closer plantings whilst retaining the benefits of wide inter-row spacings, meaning they may achieve improved production efficiencies without departing from traditional operational practices or diminishing the value of existing orchard machinery. However, the optimal planting density is yet to be defined for industry-relevant varieties grown in Australia.

Materials and Methods

A 5 ha field experiment was established in the South Australian Riverland at the Almond Board of Australia's experimental and demonstration orchard, the Almond Centre of Excellence (ACE), in 2018. The ACE site is located on a Mallee dune-swale system typical of the South Australian Riverland, with sandy loam topsoils over broken limestone. The experimental planting incorporated Nonpareil and three self-compatible almond cultivars (Shasta, Carina and Vela). All four cultivars were grafted to the full-vigour rootstock Garnem. Rows were oriented north-south at fixed widths of 6.5 m. Tree planting distances varied within-row from 5.0 to 2.5 m in increments of 0.5 m, to produce an ordered six-step density transition ranging from 308 to 615 trees/ha (Figure 1). The six density treatments were replicated six times to produce a 36 plot Latin Square design (for each of the four cultivars). Experimental plots comprised six rows with four measurement cultivars bordered by two buffer rows. Depending on planting density, five to eleven buffered measurement trees of each of the four cultivars were available for data collection within each plot. The irrigation system supplied a consistent application rate of 1.42 mm/h, regardless of planting density. Yields were measured in 2021-2024 (third to sixth leaf) using commercial-scale harvest, sweeping and pickup machines. Plot bulk yields were collected using a trailer-mounted weighing platform that trailed the pickup machine. Bulk yields were corrected for moisture and reported as yields normalised to 5% moisture. Percent crack-out and kernel weight were determined for each subsample and the final kernel tonnages were calculated by multiplying the percent crack-out by the moisture-corrected bulk yields.

Figure 1. Almond trees planted with 2.5 m within-row spacing. Photo: Tim Pitt.

Results and Discussion

Early observations of canopy architecture suggested that the Nonpareil and Shasta cultivars were more upright than the spreading forms of Carina and Vela across all the densities tested. At lower densities, the spreading architectures were more effective at filling the available space, accounting for the observation that the flatter spreading habits of Carina and Vela had a minor increase in yields within the wider-spaced treatments compared to the upright forms of Nonpareil and Shasta.

Four commercial-scale (mechanical) harvests were assessed between 2021 and 2024. Of the four cultivars assessed, only Nonpareil displayed significantly increased cumulative kernel yields that aligned with increasing planting densities. The other less upright but self-fertile varieties yielded well in their early years but did not present such a clear density response. In 2024, the Nonpareil crop was notably stronger than the previous low-crop season (Figure 2) and continued the trend for Nonpareil's density response. Sixth-leaf cumulative yields ranged from 9 metric tons/ha at 308 trees/ha to 12.5 MT/ha at 500-600 trees/ha. Across the same density range, the average sixth-leaf cumulative yields for these varieties were 14 MT/ha (Vela), 13 MT/ha (Carina) and 11 MT/ha (Shasta).

Percent crack-out did not change with planting density in any of the first four harvests; however, it was impacted by cultivar. On average, percent crack-out ranged from less than 20% for Carina to greater than 30% for Vela. Nonpareil and Shasta crack-outs were 23% and 26%, respectively. Carina's low crack-out percentage aligned with its tendency to invest more energy in the production of hull and shell and was also reflected in its small kernel size of only 1.24 g. Vela's average kernel size of 1.67 g was significantly larger than both Carina (1.24 g) and Shasta (1.46 g), but equivalent to Nonpareil (1.58 g). In general, kernel size decreased for the higher-yielding plots, particularly for the high-yielding Vela, but the reduction in kernel size was on average less than 0.1 g (data not shown).

Whilst early results show promise for increased production efficiencies for some varieties at closer plantings, results also point to questions of resource availability and

> *"Early results show promise for increased production efficiencies."*

biennial bearing. Ongoing investigations aim to better understand multi-cultivar production metrics across a range of densities, integrating the context of canopy size and orchard manageability, root distribution and plant water relations for each cultivar's yield response to planting density. Investigations at this experimental site are due to continue through to 2026 (the orchard's eighth leaf) and will increasingly focus upon resource use efficiency.

Acknowledgments

This work was funded by Hort Innovation using the Almond Research and Development Levy, with co-investment from the South Australian Government and funds from the Australian Government. For more information on strategic levy investments, visit horticulture.com.au. Special thanks to the Almond Board of Australia and their farm management staff for maintaining SARDI's ACE experimental orchards and for providing invaluable assistance in gathering experimental harvest measures.

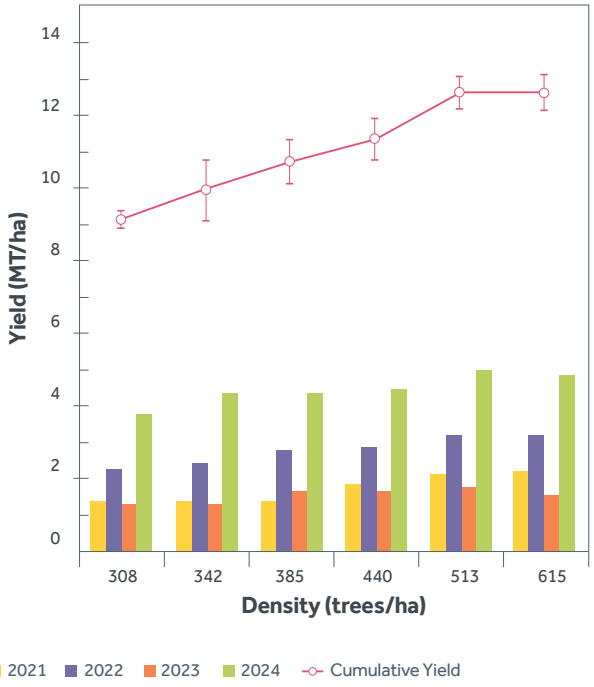

Figure 2. Annual and cumulative kernel yield for Nonpareil x Garnem, 2021 to 2024 (third to sixth leaf) at densities ranging from 308 to 615 trees/ha.

Health Benefits of Almonds

For the health-conscious eater, it's hard to beat the nutritional value of almonds. They are high in vitamin E, which contributes to the protection of cells from oxidative stress, and monounsaturated fat, which may improve cardiovascular health.[1] They are also high in fiber, vitamin B_2, calcium, magnesium, phosphorus, potassium, zinc, copper and manganese, and are a source of protein, vitamin B_1, vitamin B_3 and iron.

The almond is one of the most widely studied foods. As such, the body of research on its many health benefits is too vast to properly summarize in these pages. What follows is a brief overview of studies in areas of great interest to health-conscious consumers.

Diabetes

A growing body of research suggests that almonds may have a role to play in supporting diabetes management. A randomized controlled trial published in 2020[2] explored how an almond-based low-carbohydrate diet may affect depression and blood sugar control in 45 type 2 diabetic patients. Indicators for depression and glycosylated hemoglobin (HbA1c) —a measure of average blood sugar levels over the past two to three months— were significantly improved for participants in the almond group. More recent studies[3,4] suggest that eating a small serving of almonds before major meals may help to control blood sugar levels in people with prediabetes and overweight/obesity and even reverse prediabetes in some patients.

Weight Management

Researchers have shown great interest in the relationship between almond intake and weight management. Studies have found that almonds can be included in a person's diet without the risk of weight gain[5,6] and are also appropriate for people following calorie-restricted weight loss diets.[7] In addition, the satiating properties of almonds promote feelings of fullness, which may help to control hunger between meals.[8]

More recently, a systematic review and meta-analysis[9] analyzed 37 randomized controlled trials with a total of 43 treatment arms in order to understand the relationship between almond consumption and subjective appetite scores and body composition. Net changes in bodyweight, body mass index, waist circumference, fat mass, body fat percent, fat-free mass, waist-to-hip ratio, visceral adipose tissue and subjective appetite scores were used to calculate the effect size. Pooled effect sizes indicated a significant reducing effect of almond consumption on body weight and hunger score compared with the control group. Subgroup analyses showed that consuming at least 50 grams of almonds per day resulted in a significant and more favorable improvement in bodyweight, waist circumference, fat mass and hunger score.

Cardiovascular and Gut Health

A recent comprehensive review[10] provided a systematic and updated perspective on the benefits of almond consumption for cardiovascular health. The findings showed that regular intake of almonds has been shown to improve lipid profiles by reducing low-density lipoprotein ("bad") cholesterol and enhancing the functionality of high-density lipoprotein ("good") cholesterol. The study also found that almonds aid in glycemic control, blood pressure reduction and chronic inflammation amelioration, and that the antioxidant properties of almonds help in reducing oxidative stress markers. The review also found that almond consumption appears to modulate the gut microbiome, promoting the growth of beneficial bacteria and increasing short-chain fatty acid production.

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Additional Benefits

A number of lesser-known health benefits have also been associated with almonds. In the realm of skin care, studies suggest that almond consumption may decrease wrinkle severity[11] and improve protection against UVB-induced photodamage.[12] Finally, sports nutrition research[13] has suggested that daily almond consumption for one month is associated with better recovery after exercise, including reduced post-exercise fatigue and tension, higher levels of leg/back strength, improved mood and decreased muscle damage.

KEY HEALTH BENEFITS

- Diabetes management
- Weight management
- Cardiovascular health
- Gut microbiome
- Skin health
- Exercise recovery

HIGH IN:
Fiber, vitamin E, vitamin B_2, calcium, magnesium, phosphorus, potassium, zinc, copper and manganese

SOURCE OF:
Protein, vitamin B_1, vitamin B_3 and iron

Almond, Coconut and Dried Fig Ice Cream

Servings: 2-3

Ingredients:

- 50 g raw white almonds soaked in water overnight and drained
- 160 ml almond drink
- 80 g agave syrup
- 400 g full-fat coconut milk
- 100 g dried figs soaked in water 30 minutes and drained

Preparation:

1. Roast the almonds in a pan on medium heat for about 4 minutes, until you get a nice aroma.
2. Drain the figs and finely chop. Set aside.
3. In a blender, add the roasted almonds and almond drink and blend to a smooth paste. Transfer to a large bowl, add the agave syrup and mix well.
4. Add the coconut milk and blend.
5. Put in an ice cream maker and program for 15-20 minutes.
6. After 5 minutes, add the figs.
7. Once creamy and dense, it's ready.
8. Transfer to an airtight container and freeze.
9. Remove the ice cream from the freezer 5 minutes before serving.

New Product Launches

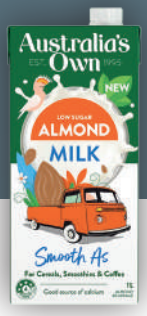
The almond is the epitome of versatility. Whether used in snacks, baked goods or beverages, almonds add texture and richness, enhancing both taste and appeal. It's no wonder, then, that this delectable nut is popular among consumers in every corner of the world. As companies continue to innovate to meet evolving consumer preferences and market trends, almonds are an ideal ingredient to inspire creativity. Read on to discover some of the latest products featuring almonds to make their market debut!

Mandolé Orchard Almond Butter

Australia

Churned to perfection, this tasty spread is made fresh from a delicious blend of lightly roasted, premium, sustainably grown Australian almonds.

https://mandoleorchard.com.au/



Australia's Own Smooth As Almond Milk

Australia

This deliciously smooth almond drink is dairy-free, gluten-free and made from 100% Aussie almonds.

https://australiasownfoods.com.au/product/smooth-as-almond/

The Coconut Collab Protein Yog

UK

This plant-based yogurt alternative is made from a blend of coconut cream and coconut water, combined with almond and soy protein.

https://coconutco.co.uk/products/protein-coconut-yog

Paper Boat Diwali Dry Fruits Medley Celebrations Gift Hamper

India

This gift box contains smoked nuts with Himalayan salt and roasted mixed nuts with Wayanad pepper. What better way to mark the festival of lights?

https://www.indiamart.com/proddetail/diwali-dry-fruits-medley-celebrations-gift-hamper-26904975855.html

Waitrose No.1 Belgian Blonde Chocolate Florentines

UK

These creamy blonde chocolate treats are generously topped with almonds and plump sultanas in sticky, golden caramel.

https://www.waitrose.com/ecom/products/no1-blonde-choc-seasalt-florentines/806384-828423-828424

Nutraj Snack Rite Daily Nutrition Pack

India

This pack contains 21 pouches of seven different mixes, offering a different healthy mix of nuts and dried fruits —including almonds— for each day of the week.

https://www.nutraj.com/products/nutraj-snackrite-daily-nutrition-pack

Nut Consumption and Osteoporosis

Prof. Jordi Salas-Salvadó

PROF. JORDI SALAS-SALVADÓ
IN COLLABORATION WITH
POSTDOCTORAL RESEARCHER
DR. HÉCTOR VÁZQUEZ-LORENTE

Professor, Human Nutrition Unit (URV, IISPV, CIBERobn), and Chairman of the INC World Forum for Nutrition Research Dissemination.

Nut consumption may support bone health by providing essential nutrients that enhance bone mineral density and content, potentially reducing the risk of osteoporosis. However, further human clinical trials are needed to confirm these benefits in human populations as current evidence is primarily observational.

Osteoporosis is a skeletal disorder characterized by a reduction in bone mineral density (BMD) and bone mass content (BMC), which subsequently deteriorates bone quality and structure. This condition compromises bone strength, thereby elevating the risk of fractures.[1] As the global population ages, the annual incidence of hip fractures is projected to double between 2018 and 2050, becoming a significant public health concern, as fractures are responsible for disability and increased mortality, especially in older people. The etiology of osteoporosis is multifactorial, encompassing factors such as aging, genetic predisposition, hormonal imbalances, certain somatic diseases, prolonged immobilization, reduced physical activity, and nutritional and dietary habits, the latter being one of the main contributors.[2]

Recent research has increasingly emphasized the beneficial role of dietary habits, and specifically the consumption of nuts, in the prevention and management of osteoporosis. Among the most widely consumed nuts globally are peanuts, walnuts, almonds, hazelnuts, cashews, pistachios, macadamias, Brazil nuts and pecans.[3] These nuts are rich in essential nutrients, including calcium, magnesium, selenium, phosphorus and vitamin K, among others, which are crucial for maintaining bone health and reducing the risk of fractures.[4] Notably, some of these nutrients have been shown to help prevent osteoporosis, particularly in postmenopausal women. For instance, resveratrol, found in peanuts, has demonstrated osteoprotective properties[5] and exhibits inhibitory effects on osteoporosis.[6] Additionally, other important constituents of walnuts, such as flavonoids, phenolics and n-3 polyunsaturated fatty acids (PUFAs), play a role in regulating various bone functions, including differentiation, apoptosis and bone resorption.[7]

In relation to the effects of nut consumption on osteoporosis in animal models, Brazil nuts, which are a significant dietary source of selenium with high bioavailability, have been shown to modulate BMD in rats. Dietary selenium intake from Brazil nuts appears to be associated with higher BMD and a reduced risk of osteoporosis and hip fractures.[8] Additionally, areca nuts, which are rich in phenolic compounds and possess antioxidant properties, demonstrated a protective effect against bone loss by inhibiting the release of reactive oxygen species and bone resorption in an induced osteoporosis mouse model.[9] Furthermore, physiologically relevant doses of pistachios and mixed nuts increased tibial BMD in rats; however, these studies did not conclusively determine whether the

observed tibial differences resulted from enhanced bone formation or reduced resorption mechanisms. If these effects are confirmed in human studies, the consumption of nuts could be recommended as a therapeutic strategy to increase BMD and thereby mitigate age-related bone loss.[10]

However, despite the growing interest in the impact of nut consumption on osteoporosis, studies conducted in humans remain limited and the role of nuts in osteoporosis is currently not well understood. This stands in stark contrast to the case of prunes, for which there is an ample body of research linking consumption to bone health.[11,12] Most existing research on the link between nuts and osteoporosis is observational; therefore, causality cannot be attributed to the possible relationship. Nevertheless, some evidence suggests that the risk of low BMC is lower in adolescents who occasionally consume nuts.[13] In a cross-sectional study, nut intake was associated with increased BMD and t-score values of the lumbar spine, which also seemed to protect postmenopausal women from osteoporosis. These findings may be partly attributable to the phytate-rich components of nuts,[14] as phytates appear to offer protection against fracture risk in women with osteoporosis risk factors.[15] Additionally, it has been shown that dietary patterns including high intakes of nuts were associated with better BMD and BMC in humans.[16] A well-balanced dietary pattern that emphasizes nut consumption during adolescence has been shown to be associated with bone health during this critical period, with positive effects potentially extending into young adulthood.[17] Moreover, adherence to a traditional Mediterranean diet, which is characterized by a high intake of nuts, has been associated with a lower risk of hip fractures. This may partly explain the observed geographical variation in hip fracture incidence across Europe, where the highest rates are found in Northern Europe and the lowest in Mediterranean countries.[18] Consequently, there is a need for potential food-based strategies to improve bone health, with a focus on increasing nut consumption.[19]

> *"Integrating nuts into a balanced diet and overall healthy dietary pattern may serve as a potential strategic element in the management of bone health in humans."*

In summary, integrating nuts into a balanced diet and overall healthy dietary pattern may serve as a potential strategic element in the management of bone health in humans. This approach offers a natural and nutrient-rich method to enhance bone quality and strength, potentially reducing the risk of osteoporosis. However, clinical trials involving human populations, particularly among individuals at risk of osteoporosis, are necessary to validate and reinforce this research question, as the majority of existing studies are observational and therefore cannot establish causality.

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New Scientific Studies

New Meta-Analysis Strengthens Evidence That Nuts May Lower Cardiovascular Risk

Nishi, S. K., et al. (2024).

Effect of Nut Consumption on Blood Lipids: An Updated Systematic Review and Meta-analysis of Randomized Controlled Trials.

Nutrition, Metabolism and Cardiovascular Diseases.

This INC-funded systematic review and meta-analysis, published in the prestigious scientific journal *Nutrition, Metabolism and Cardiovascular Diseases*, showed that current evidence provides a good indication that consuming nuts may advantageously affect blood lipids in adults with a mix of health statuses. This may be important for the prevention and treatment of cardiovascular diseases as well as intermediate health conditions such as overweight/obesity, hypertension, and dyslipidemia.

The study analyzed 113 trials that assessed the effect of consuming nuts on blood lipid outcomes. The median daily dose assessed was 45.5 grams of nuts per day compared to a non-nut control. The findings showed that, overall, nut consumption resulted in moderate reductions in total cholesterol and LDL ("bad") cholesterol, with small reductions in triglycerides and apolipoprotein B. There was no significant impact on HDL ("good") cholesterol or other assessed measures.

The researchers concluded that the current evidence supports existing recommendations for the consumption of nuts and for cardiovascular risk reduction by favorably affecting the blood lipid profile in adults. In addition to substantiating current health claims, the findings support health professionals and dietary guidelines in recommending nuts as part of a nutrient-dense dietary pattern for cardiovascular health.

"Some recent studies have questioned whether nuts have benefits on cholesterol when there is overwhelming evidence of their benefits on cardiovascular health. This update of the scientific evidence carried out with more than 100 published studies shows that international organizations should without shyness maintain nuts into their recommendations," commented Prof. Jordi Salas-Salvadó, principal investigator on the study, Professor at Rovira i Virgili University in Reus, Spain.

Dr. Stephanie Nishi, first author of the study, Assistant Professor at Toronto Metropolitan University, Canada, added: "This finding, combined with the extensive body of research on nuts, highlights their status as a powerhouse of healthful nutrients. Nuts provide a unique combination of vitamins, minerals, fiber, and healthy fats, making them a convenient, portable, and satisfying snack or meal addition as part of a healthy dietary pattern."

Regular Intake of Brazil Nuts Shows Promise for Women With Overweight or Obesity

Silveira, B. K. S., et al. (2024).

Brazil Nut (*Bertholletia excelsa* H.B.K.) Consumption in Energy-Restricted Intervention Decreases Proinflammatory Markers and Intestinal Permeability of Women with Overweight/Obesity: A Controlled Trial (Brazilian Nuts Study).

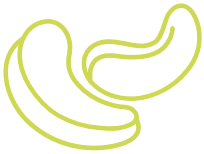
The Journal of Nutrition, 154(9), 2670–2679.

This study assessed the effect of daily Brazil nut intake on inflammation and intestinal permeability in overweight and obese women following an energy-restricted diet.

In this non-randomized controlled trial, 56 women with overweight or obesity were allocated into one of two groups. Both groups followed an energy-restricted diet (−500 kcal/d) for eight weeks. The control group consumed a nut-free diet, while the Brazil nut group consumed 8 grams of Brazil nuts per day. Inflammatory cytokines were analyzed in plasma and intestinal permeability was assessed using the lactulose/mannitol ratio.

Both groups achieved similar weight loss. The Brazil nut group showed lower values of C-reactive protein, tumor necrosis factor, interleukin-1β, interleukin-8, percentage lactulose excretion, and lactulose/mannitol ratio than the control group.

The findings suggest that regular intake of Brazil nuts may be a promising complementary dietary strategy for controlling low-grade inflammation and improving intestinal permeability in overweight or obese women undergoing energy-restricted treatment.



Cashews May Reduce Cardiovascular Risk Factors in Adults on Weight-Loss Treatment

Meneguelli, T. S., et al. (2024).

Cashew nut (*Anacardium occidentale* L.) and cashew nut oil reduce cardiovascular risk factors in adults on weight-loss treatment: a randomized controlled three-arm trial (Brazilian Nuts Study).

Frontiers in Nutrition, 11, 1407028.

This eight-week randomized controlled-feeding study set out to assess the effect of eating cashews and cashew nut oil on body fat as well as adiposity, cardiometabolic and liver function indicators during weight-loss treatment.

The study included 68 adults with overweight or obesity. The cashew group ate 30 grams of cashews per day, the cashew nut oil group consumed 30 mL of cashew nut oil per day, and the control group did not eat cashews or cashew nut oil. All three groups followed an energy-restricted diet (−500 kcal/day).

All groups saw decreases in weight and body fat. In addition, the cashew group saw reductions in liver function biomarkers, the cashew nut oil group saw improvements in LDL ("bad") cholesterol and the atherogenic index, and both intervention groups saw reductions in apolipoprotein-B and neck circumference (both cardiovascular risk factors).

Study Suggests Dried Fruit Intake Could Reduce Type 2 Diabetes Risk

Guan, J., et al. (2024).

Dried fruit intake and lower risk of type 2 diabetes: a two-sample mendelian randomization study.

Nutrition & Metabolism, 21(1), 46.

This study examined the association between dried fruit consumption and type 2 diabetes (T2D).

The study used data on dried fruit intake, as well as genotypic and phenotypic data, from a genome-wide association study (GWAS) comprising approximately 500,000 individuals in Europe. The researchers conducted a Mendelian randomization analysis to explore the causal association between dried fruit intake and T2D.

The results indicated that higher dried fruit intake was associated with a decreased risk of T2D. The risk of T2D decreased by 60.8% for every increase of dried fruit intake by one standard deviation. These findings confirm the potential benefits of dried fruit consumption and provide insight into daily primary prevention measures for T2D. The researchers concluded that the therapeutic potential of dried fruits in mitigating the risk of T2D warrants further exploration.

Study Finds Eating Pistachios May Support Eye Health

Scott, T. M., et al. (2024).

Pistachio Consumption Increases Macular Pigment Optical Density in Healthy Adults: A Randomized Controlled Trial.

The Journal of Nutrition, S0022-3166(24)01099-X. Advance online publication.

This study assessed the effect of pistachio consumption on macular pigment optical density, which protects the eye from light damage and is positively associated with eye health.

In this 12-week single-blinded, randomized-controlled trial, 36 healthy adult participants were randomly assigned to one of two groups: an intervention group that consumed 2 ounces (57 grams) of shelled pistachios plus their usual diet, or a control group that ate their usual diet. The researchers measured macular pigment optical density as well as serum concentration of the antioxidants lutein and zeaxanthin.

Participants who ate pistachios saw significant increases in macular pigment optical density after only six weeks. The findings also showed that lutein intakes nearly doubled and blood lutein levels were significantly elevated in the pistachio group. The researchers concluded that the inclusion of pistachios in a healthy diet could be an effective dietary strategy for promoting eye health.

HARRY OVERLY

PRESIDENT AND CEO
FLAGSTONE FOODS
USA

Harry Overly is the President and CEO of Flagstone Foods, one of North America's largest manufacturers and distributors of private-label healthy snacks. Over a career spanning more than two decades, he has gained significant experience in marketing, innovation, R&D, sales, strategy and general management. Before joining Flagstone in 2022, he spent five years as President and CEO of Sun-Maid Growers of California, where he positioned the company for future growth by instilling a renewed invigoration of new product innovation and customer service. Prior to that, he served as Chief Customer Officer at TreeHouse Foods, the largest private-label-focused food manufacturer in the United States.

Photo: Flagstone Foods.

Based on your deep insight into the preferences of snacking consumers, what do you see as the biggest overarching trends in this space?

Offering consumers healthier options without sacrificing flavor continues to be a key trend in the snacking universe, whether offering delicious plant-based protein, delivering added wellness benefits like antioxidants or probiotics or supporting clean living via absence of artificial ingredients.

Consumers, especially Gen Z and Millennials, are looking for more adventurous varieties that combine sweet and heat. Sweet-plus-heat combos like hot honey are popping up across multiple snacking categories in the store and on restaurant menus.

Global flavors continue to influence new product development spanning every corner of the world with introductions specific to places like Morocco and Tuscany.

What about in nuts specifically? Broadly speaking, what are today's consumers looking for?

Many snack nuts brands are focused on delivering taste plus nutrition. For example, our Emerald brand delivers against indulgence as well as transparency in manufacturing by offering the cleanest label possible with no artificial ingredients, no high-fructose syrup and GMO free.

A bit of sweet and a bit of heat is very prevalent in snack nuts, including flavors like hot honey, mango habanero, Thai sweet chili and sweet heat. In fact, Emerald just launched an irresistible hot honey cashew.

Boldly seasoned nuts seem to be all the rage. Are consumers becoming more adventurous in terms of flavor? Or are they more drawn to the nostalgia of classic flavors?

Consumers are interested and embracing bold flavors, like Korean barbecue, sriracha and wasabi, as they seek variety and excitement in their day-to-day snacking rotation. Introducing bold flavors in their repertoire is critical to avoid boredom.

However, more nostalgic classic flavors, like s'mores, will always be broadly appealing and will continue to earn a place in consumers' hearts and stomachs.

As for dried fruits, in your opinion, what are the most interesting innovations to hit the market in recent years?

I know I'm biased, but Sun-Maid's line of Fruity Raisin Snacks that combine the sour flavors of strawberry, blue raspberry and watermelon with the sweetness of raisins for the perfect on-the-go treat.

And now there is an adult version of the fruit snack with decadent options under the Sun-Maid Farmstand Reserve brand like chocolate-covered bananas and sea salt caramel and chocolate-covered raisins.

Ocean Spray has done a good job of combining taste and nutrition with their immunity, fiber and probiotic dried fruit blends.

Nuts and dried fruits are healthy, but they're also fun to eat. What's the secret to positioning them as a "permissible indulgence"?

Whether honey roasted, roasted and salted, or boldly seasoned, nuts are always a great alternative for heavily processed snacks that have too much saturated fat or too much added sugars. Nuts provide protein to fuel your day. It's always tempting to grab a handful as they are so delicious, provide a fun crunch and you never have to feel guilty as they offer heart health, weight management and immunity benefits.

What role do creativity and innovation play in your approach to private-label manufacturing? Can you give us some examples?

We believe a true partnership with our strategic customers means that we co-develop innovation that best fits the needs of their unique shoppers. We start with internal brainstorms to identify on-trend ideas that we then test with the customers shopping at our strategic retailers' stores. The best-performing items identified by market research are then presented to the customer in a co-development session in which the initiatives are further finetuned and built out, with several items authorized and commercialized. We've had successful sessions with several of our retail partners.

> *"Offering consumers healthier options without sacrificing flavor continues to be a key trend in the snacking universe."*

Flagstone Foods acquired the Emerald nuts business from Campbell Soup last year, marking the company's first foray into a branded offering. How does this acquisition fit into Flagstone's overall strategy?

We've been very pleased with our foray into the branded world. We've refined the positioning of the brand, have refreshed the graphics and built a strong multiyear innovation pipeline.

Additionally, we are launching a new campaign at the beginning of 2025. Look for some fun new messaging coming soon.

The acquisition has allowed us to drive more efficiency in the plant, penetrate new markets and provide product development synergies across both branded and private label.

Mallorca

42ND INC WORLD NUT AND DRIED FRUIT CONGRESS

MAY 8-10, 2025

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The Congress Organizing Committee looks forward to seeing you in Palma de Mallorca!

Organizing Committee

Mr. Michael Waring, INC Chairman
Mrs. Goretti Guasch, INC Executive Director
Mr. Antonio Pont, INC Honorary President & Co-founder; Mallorca Congress Chair

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company owners, presidents & CEOs

65+
countries

60+
exhibitors & sponsors

10
product round tables

65+
expert speakers

2
keynote speakers

3
daily coffee breaks & buffet lunch

3
evening social events

5
official hotels

Nutfruit Plaza

the place to be!

INC international Nut&DriedFruit

Palma de Mallorca: A Mediterranean Jewel

Mallorca
42ND INC WORLD NUT AND DRIED FRUIT CONGRESS

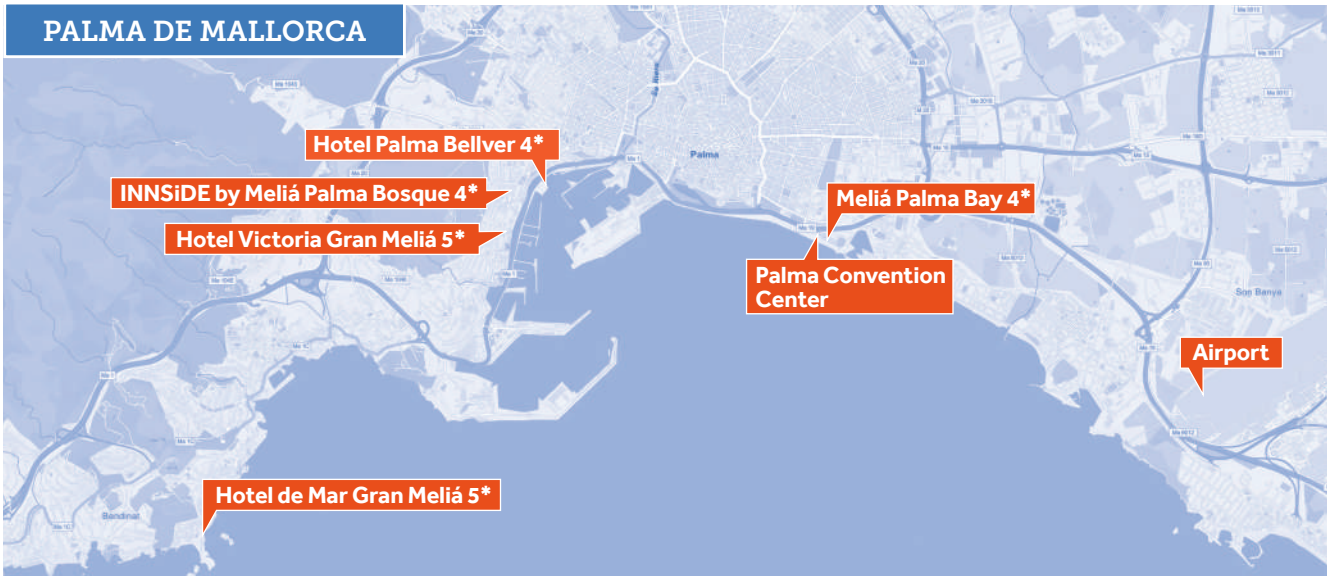
Country: Spain

Population (metro area): 423,350

Weather: In May, Palma de Mallorca enjoys warm, sunny weather, with temperatures typically ranging from a low of 15°C to a high of 23°C. With minimal rainfall and a gentle Mediterranean breeze, spring is the perfect time to visit.

Airports: Palma de Mallorca Airport (PMI) boasts excellent connections to major European cities. The city center is just 15 minutes away by bus or taxi.

Located on the largest of Spain's Balearic Islands, Palma de Mallorca is a vibrant coastal destination known for its rich history, stunning architecture and gorgeous beaches. The city's unique fusion of Mediterranean charm and modern energy provides an ideal backdrop for an unforgettable INC Congress experience.



Palma Convention Center: Beachfront Modernity

Mallorca
42ND INC WORLD NUT AND DRIED FRUIT CONGRESS

With its sleek architecture, state-of-the-art facilities and stunning seafront views, the sun-soaked Palma Convention Center provides an ideal setting for the INC Congress.

With abundant natural light and a dedication to sustainability ingrained in its DNA, the Palma Convention Center sets the stage beautifully for the INC Congress. This modern facility features a high-tech auditorium with nearly 2,000 seats. The expansive expo area will host Nutfruit Plaza, including 40 exhibitor booths, meeting areas, and food and beverage stations. Throughout the event, the INC will enjoy exclusive use of the entire premises.

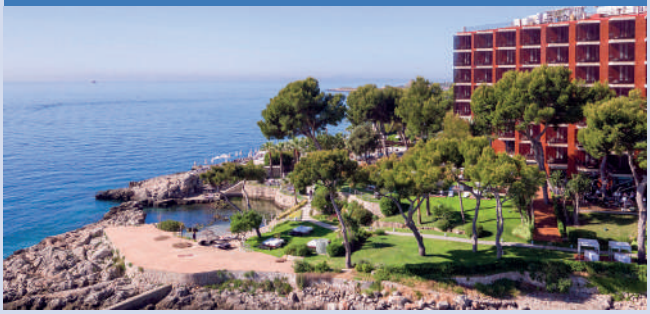
The venue's strategic location ensures quick access to the heart of Palma, making it easy to blend business with pleasure along the Mediterranean.

Official Hotels

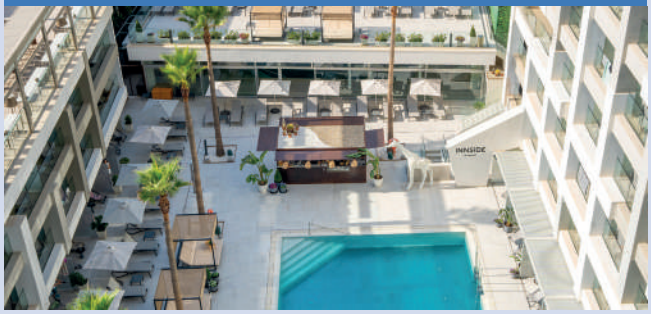
The INC has secured a limited number of hotel rooms at special discounted rates for congress delegates. Shuttle buses will be provided to and from the conference center as well as the evening social events. A booking link will be activated as soon as congress registration opens. Please visit our congress website for further details.

Hotel Palma Bellver 4*
Room & breakfast from €155 + taxes

Hotel de Mar Gran Meliá 5*
Room & breakfast from €355 + taxes



INNSiDE by Meliá Palma Bosque 4*
Room & breakfast from €149 + taxes



Hotel Victoria Gran Meliá 5*
Room & breakfast from €227 + taxes

Meliá Palma Bay 4* - attached to Congress venue
Room & breakfast from €168 + taxes

Photos © Meliá Hotels International, S.A.

Golf & Tennis Day

May 7, 2025

What better way to warm up for the INC Congress than by spending a day playing golf or tennis? Get some exercise under the Mediterranean sun, then network with your industry peers over lunch.

Photo: Son Gual Golf.

Golf at Son Gual

The INC's traditional pre-congress round of golf will take place at Son Gual. Nestled in the picturesque Mallorca countryside, this private golf club is renowned for its stunning natural landscapes. Opened in 2007, the 18-hole championship golf course features strategically placed bunkers and water hazards, providing both beginners and seasoned players with an exciting challenge. The elegant clubhouse complements the experience, offering a welcoming atmosphere, fine dining and top-notch amenities. After a post-golf group lunch, return buses will depart at 2:00 pm.

Photo: Rafa Nadal Academy by Movistar.

Tennis at Rafa Nadal Academy by Movistar

Meanwhile, tennis aficionados will be making indelible memories at Rafa Nadal Academy by Movistar, a world-class training facility located in the eponymous tennis star's hometown of Manacor. The Academy's prestige is grounded in a sophisticated methodology developed by the team behind Nadal's pro tennis success. Buses will depart for the Academy at 9:00 am, in time for a tour of the facilities and a visit to the Rafa Nadal Museum, featuring sports memorabilia and interactive simulations of sports challenges, followed by a tennis clinic with the Academy's experienced coaches and friendly matches. Non-tennis players can enjoy a day pass to the facilities, including access to the museum, gym, spa and piscina. After an on-site group lunch, return buses will head back to Palma at 2:00 pm.

Tours for Accompanying Persons

You're in Mallorca —why not make the most of it? As ever, the INC Congress will be offering engaging activities for our delegates' traveling companions.

Palma Foodie & Cultural Tour **May 8, 2025**

On the first day of the INC Congress, accompanying persons can experience the charm of Palma's old town and savor local flavors. The journey begins with a tour of Palma's spectacular 13th-century Gothic cathedral, followed by a stop at the bustling farmers' market. Participants will witness the art of slicing *serrano* ham and enjoy this delicacy paired with cheese and Spanish wine. After strolling through the narrow streets and picturesque patios, the group will stop for a tapas lunch featuring traditional dishes like *llonguet* —a typical Mallorcan bread— and croquettes. To conclude the culinary adventure, the group will indulge in a sweet treat —perhaps a rich hot chocolate, artisanal ice cream or a Mallorcan *ensaimada*.

Mallorcan Wonders Tour **May 9, 2025**

Discover the marvels of Mallorca on this tour of the island's most breathtaking sights. The adventure begins with a scenic transfer from Palma to Porto Cristo, a charming fishing port on the eastern coast of Mallorca. Here, participants will explore the stunning Drach Caves, home to the largest underground lake in Europe. During the visit, participants will be treated to a captivating light show and a concert performed by musicians performing from small fishing boats. The next stop will be one of Mallorca's renowned pearl factories, a cornerstone of the local economy. The tour culminates in the island's picturesque wine-growing region, where guests will enjoy a delightful lunch.

Preliminary Program

The INC Congress will provide ample opportunities for attendees to network, share knowledge and gain insight into the latest developments in the sector. Further details will become available as the event approaches.

Tuesday, May 6

12:00 pm – 4:30 pm
CONGRESS REGISTRATION

Wednesday, May 7

7:00 am – 2:00 pm
GOLF & TENNIS DAY
Sponsored by Valley Pride

8:00 am – 4:30 pm
CONGRESS REGISTRATION

Thursday, May 8	Friday, May 9	Saturday, May 10
8:00 am – 4:30 pm CONGRESS REGISTRATION	8:00 am – 4:30 pm CONGRESS REGISTRATION	8:00 am – 2:00 pm CONGRESS REGISTRATION
9:00 am – 3:00 pm TOUR FOR ACCOMPANYING PERSONS	9:00 am – 3:00 pm TOUR FOR ACCOMPANYING PERSONS	
8:00 am – 4:30 pm Nutfruit Plaza ALL-DAY COFFEE EXHIBITION BOOTHS		
Nutfruit Plaza MEETING AREA *Sponsored by Al Jameel International*		
8:00 am – 8:30 am MORNING COFFEE *Sponsored by Almond Board of California*	8:00 am – 8:30 am MORNING COFFEE	8:00 am – 8:30 am MORNING COFFEE *Sponsored by Willamette Hazelnut*
8:30 am – 9:30 am CONGRESS OPENING INC SUSTAINABILITY PROGRAM: A NEW GLOBAL INITIATIVE	8:30 am – 9:30 am WALNUTS ROUND TABLE	8:30 am – 9:30 am HAZELNUTS ROUND TABLE
9:30 am – 10:30 am ALMONDS ROUND TABLE	9:30 am – 10:30 am BRAZIL NUTS, PINE NUTS, AND PEANUTS ROUND TABLE	9:30 am – 10:30 am CONTRACTS AND CONSEQUENCES
10:30 am – 11:00 am COFFEE BREAK *Sponsored by Almond Board of California*	10:30 am – 11:00 am COFFEE BREAK	10:30 am – 11:00 am COFFEE BREAK *Sponsored by Willamette Hazelnut*
11:00 am – 11:45 am KEYNOTE SPEAKER	11:00 am – 11:45 am CASHEWS ROUND TABLE	11:00 am – 11:45 am PECANS ROUND TABLE
11:45 am – 12:45 pm PISTACHIOS ROUND TABLE	11:45 am – 12:30 pm KEYNOTE SPEAKER	11:45 am – 12:45 pm DATES, APRICOTS, AND FIGS ROUND TABLE
12:45 pm – 1:30 pm NUTRITION RESEARCH SEMINAR	12:30 pm – 1:30 pm RAISINS, PRUNES, AND CRANBERRIES ROUND TABLE	12:45 pm – 1:30 pm MACADAMIAS ROUND TABLE
1:30 pm – 3:00 pm WORKING BUFFET LUNCH *Sponsored by* *Setton Pistachios of Terra Bella*	1:30 pm – 3:00 pm WORKING BUFFET LUNCH *Sponsored by Royal Nuts*	1:30 pm – 3:00 pm WORKING BUFFET LUNCH *Sponsored by* *Qiaqia Food Co. Ltd*
3:00 pm – 3:30 pm SPONSORED PANEL SESSION *Sponsored by* *MSC Mediterranean Shipping Company*	3:00 pm – 4:00 pm SPONSORED PANEL SESSIONS	
3:30 pm – 4:00 pm SPONSORED PANEL SESSION		
6:00 pm – 8:00 pm (Buses depart at 5:30 pm) WELCOME COCKTAIL Parc de la Mar *Sponsored by Importaco*	7:00 pm – 10:00 pm (Buses depart at 6:30 pm) CASUAL BUFFET DINNER Son Termes Estate	7:00 pm – 12:00 am (Buses depart at 6:30 pm) COCKTAIL, GALA DINNER AND BALL Port Adriano Marina *Sponsored by Chilenut*

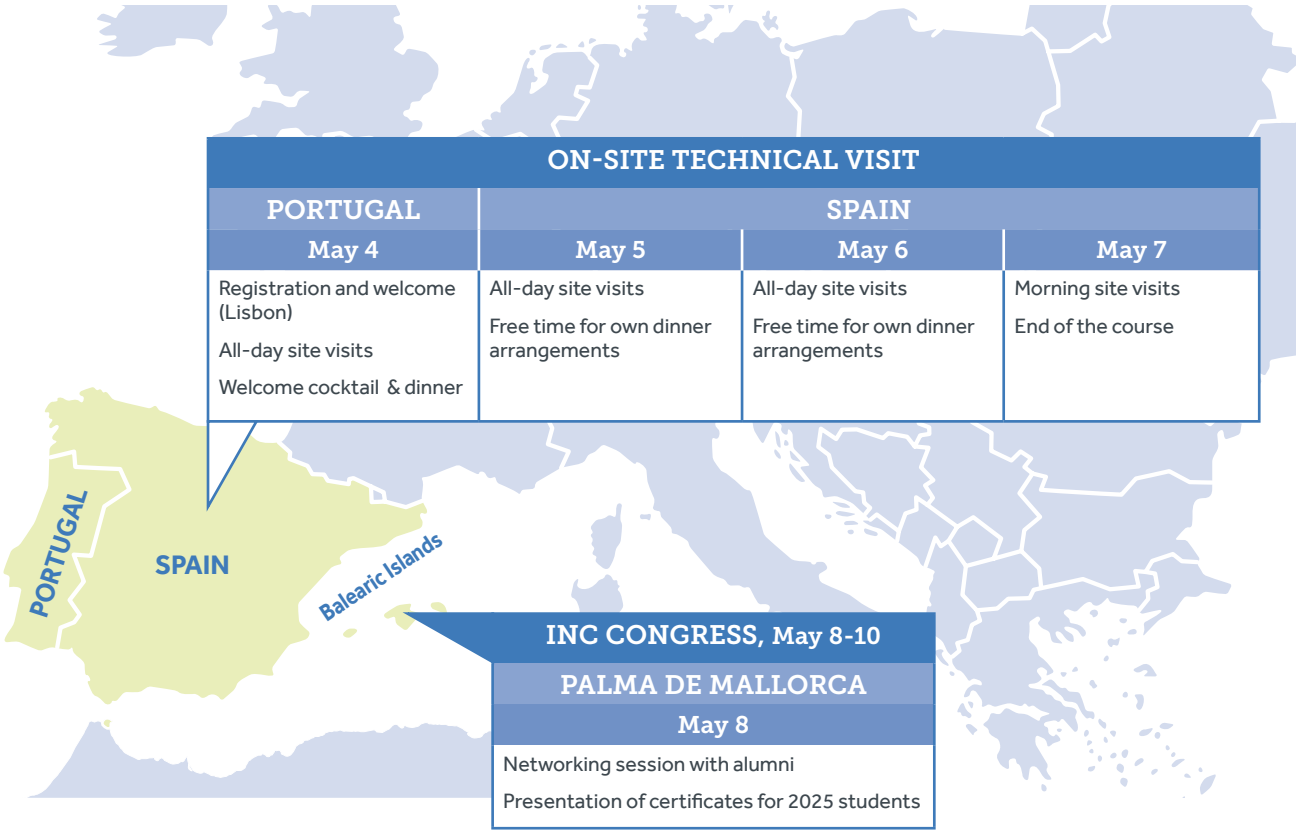
INC On-site Technical Visit 2025

May 4-7, 2025

Enhance your INC Congress experience by joining the industry's premier hands-on learning experience in the south of Portugal and Spain. All congress attendees are welcome to register for the INC On-site Technical Visit.

The 2025 INC On-site Technical Visit offers an up-close look at some of the industry's most interesting players in the south of Portugal and Spain. By visiting orchards, processing plants and factories, participants will gain valuable industry knowledge from people on the ground. Visits confirmed to date include De Prado Almonds, Nuevos Cultivos Agrarios and Calconut, among others to be announced in due course.

Running from May 4-7, 2025, this four-day program will take participants on an epic journey across the Iberian Peninsula, wrapping up just in time to hop over to Mallorca for the INC Congress the following day.



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Mallorca
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Elevate your brand, enhance your reputation and tap into an environment fully focused on the nut and dried fruit industry. Secure a sponsorship opportunity and showcase your brand to 1,500 world-class industry leaders. Sponsorship packages and exhibition booths are still available —visit the congress website to explore your options!

Thank you to all sponsors and exhibitors for supporting the INC Congress!
congress.nutfruit.org

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FOR THE NUT & DRIED FRUIT INDUSTRY

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Led by respected industry and academic experts, **over 300 students from leading companies** have already benefited from our extensive program. The INC Academia offers an array of invaluable insights that will help students advance their careers and bring valuable expertise to companies.

INC Multi-Country Dissemination Plan: Reaching Tomorrow's Consumers Today

Since its inception in China in 2022, the INC Multi-Country Dissemination Plan has grown into a global success, spreading to India in 2023 and expanding across Latin America in 2024. Millions of young lives have been touched by our message of healthy goodness, shaping consumption habits that could last for decades.

The INC Multi-Country Dissemination Plan targets Generation Z consumers, aiming to raise awareness about the health benefits of nuts and dried fruits. By tapping into digital platforms, influencer collaborations and creative content, we foster online discussions about the advantages of these nutritious foods. Since introducing this initiative in 2022, we have reached over 367.8 million Gen Zs in total and driven more than 8.5 million social media engagements across the globe. Read on for more details about the results of the country-specific campaigns in 2024.

Latin America: The Nut Tunes Phenomenon

Earlier this year, we launched *Nut Tunes: Feed Your Vibe!* Targeting Argentina, Brazil, Chile and Mexico, this initiative turned nuts and dried fruits into musical stars. Our heroes have been taking the internet by storm, spreading their fruitful tunes to a Gen Z audience through Spotify and popular social networks. This creative strategy resonated with our target audience, particularly on TikTok, leading to 7.2 million views and 970,000 social media interactions. By blending music and influencer partnerships, the campaign reached a staggering 79.27 million people across the region.

Apart from *Nut Tunes*, the campaign in Latin America is heavily focused on educating Gen Z about the numerous health benefits of nuts and dried fruits and raising awareness of how these natural foods can positively impact their well-being. Top-performing content in the region included recipe videos suggesting nuts and dried fruits as convenient on-the-go snacks and offering ideas for integrating them into meals. TikTok saw the fastest follower growth in Latin America, with recipes and health information driving engagement. Influencers also played a key role, generating significant engagement and spreading the word to our audience.

China: Own Your Now

In China, the 2024 campaign built on themes of self-love and healthy living. The *One Small Change = A Totally Different Day* campaign inspired young Chinese consumers to embrace adventurous lifestyles fueled by nuts and dried fruits. By collaborating with influencers and focusing on outdoor activities, the power of choice and the beauty of living true to yourself, the campaign has garnered 62.6 million views and 1.96 million interactions. Our hero contents embody the concept of encouraging Gen Z to find the courage to define their own lives, with four different videos attracting 3.5 million views on the key social network Douyin (TikTok).

On WeChat, city walks have become a popular trend, offering a unique way to explore the charm of cities across China through curated walking routes. A distinctive feature of this content is the inclusion of rest stops, where readers are guided to refuel with simple, nourishing snacks like nuts and dried fruits. Posts highlight local specialties that incorporate nuts and dried fruits, blending traditional flavors with a focus on wellness. The articles reached over 341,000 users, which is a significant amount on this channel.

India: It's Time to Make a Switch

The *It's Time to Make a Switch* campaign encourages Gen Z to prioritize their health and well-being by making a conscious shift —switching off from unhealthy habits and adopting nuts and dried fruits as their go-to snack. At the heart of the campaign are four hero videos that deliver powerful messages on nutrition, sustainability and a healthy lifestyle. These videos creatively blend real-life footage with AI technology to engage the target audience. This approach has been instrumental in the campaign's success, reaching 51.8 million people and generating over 1.3 million interactions in 2024.

Content centered on nutrition and health knowledge has seen notably high engagement rates, with one reel on nutrition —a capsule of our hero content— racking up 5.88 million views on Instagram. Recipe content has also been essential in driving engagement, with our ebook —which offers practical ways for people to integrate these healthy snacks into their daily diets— being downloaded more than 300 times.

Additionally, influencers have played a pivotal role in amplifying the campaign, helping to expand the message's impact across social media platforms with a total of 35 pieces of content and 434,000 interactions.

INC Participates in Industry Events Across the Globe

The INC has an active presence at key industry events across the globe. In August, an INC delegation took part in the 2024 China International Tree Nuts Conference, and in October, INC Chairman Michael Waring spoke at the Australian Almond Conference and AusMac2024.

2024 China International Tree Nuts Conference

In August, the INC participated in the 2024 China International Tree Nuts Conference in Hangzhou, China. This annual event, organized by the China Chamber of Commerce of Import and Export of Foodstuffs (CFNA), drew over 800 participants from 17 countries and hosted 130 exhibitors, including growers, exporters and factory operators.

The INC was represented by Ashok Krishen, 1st Vice Chairman, and Pino Calcagni, 2nd Vice Chairman and INC co-founder. During the opening session, Mr. Krishen spoke about the INC's ongoing dissemination campaign aimed at boosting consumption of nuts and dried fruits among Chinese consumers, especially Generation Z. Mr. Calcagni provided a global statistical review of tree nut production, demand and supply, underscoring China's status as a leading producer of tree nuts, particularly walnuts.

Throughout the event, the INC exhibited with a booth designed to promote the INC's activities to a Chinese audience. The exhibition provided an excellent opportunity for the INC to reinforce its connection with valued Chinese members and forge new ties with key companies from across the country.

Photo courtesy of CFNA.

Photo courtesy of Almond Board of Australia.

INC Chairman Speaks at Industry Events

INC Chairman Michael Waring participated in the Australian Almond Conference, held in Adelaide from October 2-4, 2024. Organized by the Almond Board of Australia, the conference focused on the timely theme of "future-ready almonds." Mr. Waring delivered a presentation entitled *Global Almond Demand & Growth Initiatives*. In his talk, Mr. Waring provided an overview of world tree nut production before delving into the finer points of the global almond trade and consumption in key markets. He described the INC's ongoing multi-country dissemination campaign and highlighted key trends among Gen Z consumers in China, India and Latin America.

Mr. Waring also took part in AusMac2024, which was organized by the Australian Macadamia Society and took place in Australia's Gold Coast from October 29-31, 2024. Mr. Waring delivered a talk entitled *A Global Vision for Nuts and Macadamia Markets of the Future*, in which he discussed global production of tree nuts —including macadamias— before providing key facts and figures about macadamia exports and imports, as well as an overview of the INC's worldwide dissemination efforts and other key initiatives.

INC Recipes: Nutty, Fruity Inspiration for Everyday Cooking

The INC's online recipe campaign aims to inspire people to incorporate nuts and dried fruits into their daily diet. This initiative has quickly gained popularity across social media, thanks to its engaging content and practical approach to healthy eating.

Nuts and dried fruits are as appetizing as they are photogenic. It's no wonder, then, that the INC's recipe campaign has gained such a following online. The main objective of the campaign is to share easy, accessible ways for people to add nuts and dried fruits to everyday meals, particularly resonating with Gen Z, our target audience. Known as the "snacking generation," Gen Z values convenience and speed in food prep, as well as options that fit into their fast-paced, holistic approach to well-being. Therefore, our latest recipes are designed to be quick and simple, allowing them to easily incorporate nutritious ingredients into their lifestyle.

Recipes within the INC collection are accompanied by bright, attractive photos and our latest recipes are accompanied by short, practical step-by-step videos, making it easy for home cooks to visualize and follow along. To make them user-friendly, the recipes are organized into different categories based on difficulty levels. Whether someone is looking for a quick snack or a more elaborate meal, there is something for everyone. A dropdown menu allows users to filter by dish type: from "Appetizers & Snacks" to "Vegetables & Pasta" and, of course, "Dessert," there's an innovative recipe featuring nuts and dried fruits for every moment of the day.

In alignment with the INC's Multi-Country Dissemination Plan in Latin America, our latest recipe collection also includes recipes in Spanish and Portuguese, tailored specifically to








different audiences in Argentina, Chile, Mexico, and Brazil. These culturally relevant recipes infuse traditional flavors with the added health benefits of nuts and dried fruits, providing our audience with fresh take on beloved dishes.

The variety of recipes has resonated well with social media users, making it the INC's most popular type of online content. Since launching, the INC has produced 176 recipes, accumulating an impressive 17 million views across all platforms. TikTok, in particular, has proven essential for reaching Gen Z. The platform's rapid, visual nature aligns seamlessly with Gen Z's preference for engaging, snackable content, and the INC's recipe content has amassed over 10 million views since its incorporation into the consumer strategy in 2020.

In 2025, the campaign's ongoing engagement with its audience is set to expand even further, with more recipe creations planned. These upcoming additions promise even more global flavors and creative spins on classic dishes, offering fresh, nutritious inspiration for an increasingly health-conscious population.

By blending tradition with innovation, through this initiative the INC aims to encourage more people to enjoy the numerous health benefits of nuts and dried fruits, making it easier than ever to incorporate them into meals throughout the day, regardless of time constraints or cooking experience.

To discover countless ways to make your meals nuttier and fruitier, visit https://www.nutfruit.org/recipes/

INC Holds Key Meetings in Rome

The INC leadership recently gathered in the Italian capital for a series of important meetings, including a quarterly meeting of the INC Executive Committee and a meeting with the Director-General of the FAO.

On October 17, the INC leadership met with the Director-General of the Food and Agriculture Organization of the United Nations (FAO) to explore future collaborations and synergies, as well as with Fruitimprese, the Italian association of fruit and vegetable industries, to exchange insights and share information about the INC's mission and activities.

In the quarterly Executive Committee meeting on October 18, members discussed key INC initiatives and set the strategic direction for the rest of 2024 and into 2025, all with the goal of advancing the INC's objectives and fostering sustainable growth in the industry. We are excited about what's on the horizon and look forward to sharing details with you in the coming months.

Largest INC Pavilion Ever at SIAL Paris

A record-breaking INC Pavilion served as a dynamic showcase for the nut and dried fruit industry at the SIAL trade fair, held in Paris from October 19-23, 2024.

This year's SIAL trade fair was a smashing success, thanks to a history-making INC Pavilion. With 37 co-exhibitors from 17 countries, this 472 m² space was the largest INC Pavilion ever organized at any trade fair. Ideally situated within Exhibition Hall 8, the INC Pavilion served as the heart and soul of the nut and dried fruit industry, providing unparalleled visibility to co-exhibitors represented under the umbrella of the INC.

The INC Pavilion's meeting area, sponsored by Al Jameel and Starline, became a hub of productive business activity. And on the afternoon of Sunday, October 20, the INC Pavilion became a veritable magnet for industry leaders, thanks to the eagerly awaited INC Cocktail, sponsored by Orienco. INC Chairman Michael Waring commented: "The INC Pavilion series continues with SIAL 2024. It continues to attract amazing representation from INC membership, but also from the greater food community." For her part, INC Executive Director Goretti Guasch commented: "As the global representation of the nut and dried fruit industry, we take great pride in bringing together key players from the entirety of the supply chain and this pavilion is a testament to our sector's shared commitment to drive industry growth."

Like the INC Pavilion, SIAL itself was bigger than ever this year. With 11 halls for 10 food industry sectors, more than 7,500 exhibitors showcased over 400,000 products and innovations, drawing 285,000 visitors from 205 countries. For the first time in history, SIAL sold out five months ahead of time. To mark the 60th anniversary of this biennial event, this year's SIAL featured an innovative program of talks, summits, pitch sessions and tastings.

SIAL PARIS IN NUMBERS

INC PAVILION	EXHIBITION
37 co-exhibitors	**285,000** visitors
17 countries	**7,500** exhibitors
472 m² pavilion space	**205** countries


ATCO
Bizim Anadolu Tarım
BOUDJEBEL
DCOOP
LET'S TALK ABOUT NUTS
DERBY
INGREDIENTS
Golden Rock
TUNISIA
GROWEX
HASAS


Importaco
Nuts


nvernada


USA
JUPITER
NATURALS


MEDA
MEDA


MEHMET


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MEPE


MWT
FOODS


Nova Terra


orienco


OUR QUALITY
IS NOT
A SECRET
PACIFIC


PEARLCROP


ROSE
Sable


SEASTAR


SUSTA

Thank you for joining us at SIAL!

See you next time at Gulfood

If you missed out on SIAL, fear not! The INC Pavilion will be back before you know it.

From **February 17-21, 2025**, the INC will host a 228 m² space in Dubai at Gulfood, the Middle East's foremost food and hospitality showcase.

Last year's Gulfood brought together more than 5,500 exhibitors from 190 countries and more than 130,000 visitors from across the globe.

We hope to see you there!

80th Anniversary and New Facility for Murano S.p.A., Leader in the Italian Dried Fruit Market

This year marks the 80th anniversary of Murano S.p.A., the Italian leader in the dried fruit sector and a point of reference in Europe. The group looks confidently to the future, and from its headquarters in Pomigliano d'Arco (Naples), a great sense of optimism permeates as the construction of a new, revolutionary facility officially begins. This facility will more than double production capacity and further raise quality standards.

The project is top-secret, but some details have emerged from the management: the total area will be 72,000 m², and the world's best technologies will be applied to the sector. The company will be 5.0, with cutting-edge, fully automated and integrated production lines. Data and flows will be meticulously captured by the Manufacturing Execution System (MES) for complete control over every single processing phase.

The construction of the new Murano headquarters has been entrusted to Baraclit of Bibbiena, a prestigious Italian prefabricator. A blend of design and sustainability, Baraclit has won prestigious architecture awards for projects with high innovative and aesthetic content, boasting important references, including Prada, Brunello Cucinelli and Ferragamo, just to name a few.

Fatina, the best-selling brand in Italy,[1] has received the prestigious recognition of "Historic Brand" in its sector and holds an optimal position in the fruit and snack departments of large Italian retailers.

1. Source: Circana, 2023.

EST. 1985

La Nogalera

— GOOD ROOTS, AMAZING NUTS —

Pecans

Nut-thing but the Best

www.lanogalera.com @lanogaleragroup

We shell well over **100 million** pounds a year

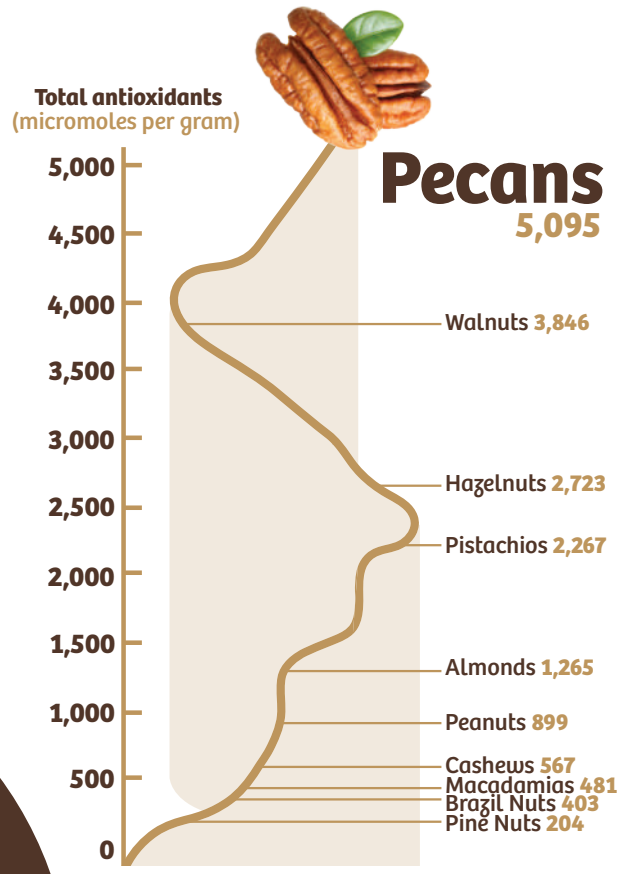
- **Oil roast & Dry roast capabilities**
- **Confectionary capabilities**

Our certifications

USDA ORGANIC · JAS Kiwa BCS Öko-Garantie · DUN & BRADSTREET ESG REGISTERED · NON GMO Project VERIFIED · Great Place To Work. · SQF · CCIM HALAL CONSULTANTS · Sedex

#1 Super Nut

Pecans contain more antioxidants than any other nut!



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Global Statistical Review

Crop Forecast Update

November 2024

Statistics are also available at our website **inc.nutfruit.org**

Map shows 5 top producing countries. Other major producers listed below.

Main Producing Countries

Almonds

USA	Chile
Australia	Morocco
Spain	Italy
Iran	Syria
Türkiye	
Tunisia	
Greece	

Brazil Nuts

Bolivia	
Peru	
Brazil	

Cashews

India	Nigeria
Côte d'Ivoire	Indonesia
Viet Nam	Cambodia
Guinea-Bissau	
Brazil	
Tanzania	
Benin	

Hazelnuts

Türkiye	China
Italy	Iran
USA	Chile
Georgia	
Azerbaijan	
Spain	
France	

Macadamias

South Africa	China
Australia	Colombia
Kenya	New Zealand
USA	Viet Nam
Guatemala	
Malawi	
Brazil	

Pecans

USA	
Mexico	
South Africa	
Australia	
Brazil	
China	

Pine Nuts

China	Türkiye
North Korea	Portugal
Pakistan	Italy
Afghanistan	
Mongolia	
Russia	
Spain	

Pistachios

USA	Italy
Iran	Australia
Türkiye	Spain
Syria	
Afghanistan	
China	
Greece	

Walnuts

China	India
USA	Romania
Iran	Argentina
Türkiye	Hungary
Ukraine	Italy
Chile	Georgia
France	Australia
Moldova	

Peanuts

China	Viet Nam
India	Ghana
USA	Brazil
Nigeria	Nicaragua
Indonesia	Côte d'Ivoire
Argentina	
Senegal	

Dates

Saudi Arabia	Sudan
Egypt	Oman
Iran	Tunisia
UAE	Morocco
Pakistan	Libya
Algeria	Israel
Iraq	USA

Dried Apricots

Türkiye	
Iran	
China	
USA	
South Africa	
Australia	

Dried Cranberries

USA	
Canada	
Chile	

Dried Figs

Türkiye	
Egypt	
Iran	
USA	
Greece	
Spain	
Italy	

Prunes

USA	South Africa
Chile	
France	
Argentina	
Serbia	
Australia	
Italy	

Raisins Sultanas Currants

USA	Greece
Türkiye	Australia
Iran	Argentina
China	South Africa
India	
Chile	
Uzbekistan	

Listed by global production as per FAO but not necessarily meaning quantities going through commercial channels.

The INC will continue updating the statistics in next issues of the *Nutfruit* magazine and newsletters.

Almonds

杏仁 / لوز / बादाम / Almendra / Amêndoas / Amande / Badem

The information contained herein was prepared between mid-September and October 2024.

USA. The Almond Board of California's second position report on the 2024/25 crop (August 2024 – July 2025) shows receipts of 1,035 million pounds (approx. 469,500 metric tons) of kernel weight through September 2024. Receipts were higher than in the same period in 2023, which was impacted by a delayed start to harvest. The USDA National Agricultural Statistics Service estimated the 2024/25 crop at 2.8 billion lbs. (approx. 1.27 M MT).

Shipments for 2023/24, totaling 2.692 B lbs. (1.22 M MT), were the second largest in history and were about 300 M lbs. (approx. 136,000 metric tons) more than total production, meaning that the carry-in inventory for 2024/25 is down 37% from last year. The reduced inventory was reflected in 2024 year-to-date total shipments (August 1 – September 30), which were down 11% from a year ago. Domestic shipments were down 5% for the first two months, and exports were down 14% at 264 M lbs. (119,00 MT). Despite a 1% decline, exports to India remain robust, sustaining the strong growth trend in this market. Exports to Europe were also down from a year ago while the Middle East was up by 36%.

Australia. As reported by the Almond Board of Australia, the industry is experiencing a strong 2024/25 selling season, driven by rising demand from China and India. August marked the third consecutive month of record-breaking sales, and the fourth in the last six months, despite rising prices. Total exports to China surged by 93% compared to last year, while Indian demand was recovering after a slow start, aided by the Australia-India Economic Cooperation and Trade Agreement. Although domestic sales remain flat, total export volumes are up 21%, at 88,090 MT kernel weight equivalent and in-shell sales reached a record level at over 47,000 MT, up from 27,000 last year.

The 2024/25 crop was updated to 153,550 MT, primarily due to lower yields from older trees. Late September frosts in key growing regions have raised concerns for the 2025/26 crop, with the full extent of the impact still being assessed at the time of reporting.

Spain. As of the time of reporting, the 2024/25 harvest was expected to be below earlier estimates. Various weather-related issues, including excessive rainfall in spring and drought in southeastern Spain, along with damage caused by extreme heat during the last two seasons, have reduced the yield. Some sources estimate the drop to be around 15% compared to earlier projections. Despite the lower yield, quality remains good, with sizes slightly larger than last year. A significant improvement in prices, which have risen by over 30% compared to the previous year, helped to improve farmers' profitability after several challenging years.

According to AEOFRUSE, total exports for the 2023/24 season (August 2023 – July 2024) —encompassing Spanish origin and re-exports, both conventional and organic, as well as natural and processed almonds— reached 143,422 MT, an 8% increase from 2022/23. Western Europe, the primary market, accounted for 111,943 MT, a 6% rise from the previous season.

Portugal. As per Portugal Nuts reports, despite cold and windy conditions during the flowering period, both self-fertile and pollinated varieties showed satisfactory fruit setting, exceeding the output of the previous season. While the wet spring helped to meet water requirements, it also introduced challenges in disease management, which required continuous monitoring and interventions from producers.

Yield expectations, as of this report, varied across different varieties and regions. Warm and dry conditions during harvest facilitated smoother operations. Kernel sizes appear to be in line with expectations, with very good quality reported. The expansion of newly bearing hectares in central and southern Portugal is expected to support growth in production volume.

Estimated World Almond Production. Kernel Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
USA (MM lbs)	800	2,394	**3,194**	503	503	2,744	**3,247**	550
USA (MT)	363,200	1,086,880	**1,450,080**	228,360	228,360	1,245,780	**1,474,140**	249,700
AUSTRALIA	30,000	110,707	**140,707**	10,000	10,000	153,550	**163,550**	15,000
SPAIN	15,337	113,150	**128,487**	21,914	21,914	122,300	**144,214**	28,863
TÜRKIYE	0	25,000	**25,000**	0	0	30,000	**30,000**	0
CHINA	0	15,000	**15,000**	0	0	25,000	**25,000**	0
PORTUGAL	0	20,850	**20,850**	0	0	25,000	**25,000**	0
ITALY	0	21,800	**21,800**	1,000	1,000	21,000	**22,000**	1,000
MOROCCO	3,000	18,500	**21,500**	2,500	2,500	18,000	**20,500**	2,500
TUNISIA	1,500	12,000	**13,500**	1,000	1,000	12,000	**13,000**	1,000
CHILE	0	12,436	**12,436**	0	0	9,583	**9,583**	0
GREECE	0	6,500	**6,500**	700	700	7,500	**8,200**	1,500
IRAN	1,000	6,000	**7,000**	2,000	2,000	6,000	**8,000**	2,000
OTHERS	0	16,000	**16,000**	0	0	16,200	**16,200**	0
WORLD TOTAL	**414,037**	**1,464,823**	**1,878,860**	**267,474**	**267,474**	**1,691,913**	**1,959,387**	**301,563**
WORLD CONSUMPTION (Supply-End. Stock)				**1,611,386**				

Sources: Almond Board of California, Almond Board of Australia, AEOFRUSE, Portugal Nuts, Chilean Almond Board, Greek Nuts & Fruits Trade Association and other INC sources. Season 2023/2024 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres.

Amazonia (Brazil) Nuts

巴西果 / جوز البرازيل / ब्राजील नट्स / Coquito de Brasil / Castanhas do Brasil / Noix de Bresil / Brezilya fingigi

The information contained herein was prepared between mid-September and October 2024.

The Brazil nut market is facing a series of significant challenges. Availability of nuts has been limited throughout the season mainly due to increased demand, particularly from Europe and the United States. The period of early demand, from November to April, has put pressure on global stocks, which were already diminished at the start of the year. Consequently, many factories have shut down production earlier than usual, with only larger producers expected to continue until November. Even then, the quantities are already committed, signaling limited availability until the next crop.

Driven by the combination of low global stocks and steady demand, prices for Brazil nuts have followed an upward trend since the beginning of the season. As the year closes, the key challenge will be setting the price for the next crop's raw material collection, which is set to start in December. Demand is likely to shift to a hand-to-mouth basis, with buyers anticipating a potential price drop for the upcoming season. Sellers, however, many of whom halted production early this season, will be eager to resume cracking as soon as possible.

Both Brazil and Bolivia have experienced exceptionally dry weather and forest fires. By the end of September 2024, over ten million hectares of land in Bolivia and more than 12 M ha in Brazil had been burned. Fortunately, the affected areas in Peru were smaller, with just over 3,000 ha impacted across 22 regions. Although fires occurred in regions where Brazil nuts are collected, the major forest areas significantly affected were located further away. Immediate concern was not for this year's crop, as the pods have been safely on the trees since early this year, but about the potential disruption to next year's crop. A critical period for the Brazil nut trees is the flowering season, which depends on successful pollination by bees. Smoke from the fires during this period may have affected the pollination process, though the consequences for the 2025 crop are not yet known.

As producers look to the skies in November, hoping for rain, uncertain weather conditions remain a critical concern. The unusual weather patterns seen this season have introduced an added layer of unpredictability.

Estimated World Amazonia (Brazil) Nut Production. In-shell Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
BOLIVIA	1,500	66,000	**67,500**	2,700	2,700	70,500	**73,200**	3,000
PERU	960	14,400	**15,360**	300	300	14,700	**15,000**	0
BRAZIL	300	7,500	**7,800**	900	900	7,500	**8,400**	300
WORLD TOTAL	**2,760**	**87,900**	**90,660**	**3,900**	**3,900**	**92,700**	**96,600**	**3,300**
WORLD CONSUMPTION (Supply-End. Stock)				**86,760**				

Estimated World Amazonia (Brazil) Nut Production. Kernel Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
BOLIVIA	500	22,000	**22,500**	900	900	23,500	**24,400**	1,000
PERU	320	4,800	**5,120**	100	100	4,900	**5,000**	0
BRAZIL	100	2,500	**2,600**	300	300	2,500	**2,800**	100
WORLD TOTAL	**920**	**29,300**	**30,220**	**1,300**	**1,300**	**30,900**	**32,200**	**1,100**
WORLD CONSUMPTION (Supply-End. Stock)				**28,920**				

Source: INC.

Cashews

腰果 / کاجو / काजू / Anacardo / Castanhas de caju / Noix de caju / Kaju cevizi

The information contained herein was prepared between mid-September and October 2024.

Northern Hemisphere. The crop season was, at the time of this report, nearing the end. This season, due to the impact of the El Niño, crop yields across all major growing regions decreased. As a result, kernel prices rose and remain consistently high. The remaining stock was either of reduced quality, with lower yields, or had already been allocated to meet existing commitments.

In Viet Nam, most smaller processing units ceased operations due to the scarcity or high cost of raw materials. In India, domestic demand remained robust, bolstered by Diwali and the wedding season. These festivities, along with the approaching Chinese New Year, were expected to drive strong consumer demand.

By mid-September, although the export ban in Côte d'Ivoire was lifted, price movements remained minimal. Retailers were in their main purchasing period for the 2025 calendar year needs, which was anticipated to close in two months' time.

Southern Hemisphere. With the harvest season in the northern hemisphere concluded, the southern hemisphere crops remain as the only sources of supply until the next harvest. The crops were expected to start arriving towards October.

At the time of this report, uncertainty remained regarding Tanzania's policies, where cashew is one of their significant cash crops. Any remaining southern hemisphere supply was expected to come mainly from Mozambique, Brazil and Indonesia. The Brazilian crop was expected to perform significantly better this season, with official estimates placing production at approximately 150,000 metric tons. Early shipments began arriving at factories in mid-September, though the bulk of new crop shipments was projected to commence in the second half of October. Brazil remains uncompetitive in the 240 and 320 grades due to high sales volumes to Latin American markets. However, the availability of larger nut sizes and broken grades were expected to increase. Indonesia reported insect damage, which could contribute to potential shortages.

Estimated World Cashew Production. Raw Cashew Nut (RCN) · Metric Tons

Country	2023/2024				2024/2025*			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
CAMBODIA	n/a	630,000	630,000	n/a	n/a	800,000	800,000	n/a
INDIA	n/a	765,000	765,000	n/a	n/a	615,000	615,000	n/a
VIET NAM	n/a	300,000	300,000	n/a	n/a	270,000	270,000	n/a
CÔTE D'IVOIRE	n/a	1,330,000	1,330,000	n/a	n/a	1,130,000	1,130,000	n/a
NIGERIA	n/a	357,000	357,000	n/a	n/a	270,000	270,000	n/a
GHANA	n/a	290,000	290,000	n/a	n/a	240,000	240,000	n/a
GUINEA-BISSAU	n/a	275,000	275,000	n/a	n/a	200,000	200,000	n/a
BENIN	n/a	250,000	250,000	n/a	n/a	200,000	200,000	n/a
GUINEA CONAKRY	n/a	160,000	160,000	n/a	n/a	130,000	130,000	n/a
BURKINA FASO	n/a	165,000	165,000	n/a	n/a	105,000	105,000	n/a
SENEGAL	n/a	100,000	100,000	n/a	n/a	85,000	85,000	n/a
TOGO	n/a	120,000	120,000	n/a	n/a	80,000	80,000	n/a
GAMBIA	n/a	28,000	28,000	n/a	n/a	25,000	25,000	n/a
MALI	n/a	10,000	10,000	n/a	n/a	10,000	10,000	n/a
Subtotal Western Africa	**n/a**	**3,085,000**	**3,085,000**	**n/a**	**n/a**	**2,475,000**	**2,475,000**	**n/a**
Subtotal Northern Hemisphere	**n/a**	**4,780,000**	**4,780,000**	**n/a**	**n/a**	**4,160,000**	**4,160,000**	**n/a**
TANZANIA	n/a	260,000	260,000	n/a	n/a	260,000	260,000	n/a
MOZAMBIQUE	n/a	85,000	85,000	n/a	n/a	85,000	85,000	n/a
KENYA	n/a	5,000	5,000	n/a	n/a	5,000	5,000	n/a
Subtotal Eastern Africa	**n/a**	**350,000**	**350,000**	**n/a**	**n/a**	**350,000**	**350,000**	**n/a**
BRAZIL	n/a	116,829	116,829	n/a	n/a	151,227	151,227	n/a
INDONESIA	n/a	90,000	90,000	n/a	n/a	90,000	90,000	n/a
Subtotal Southern Hemisphere	**n/a**	**556,829**	**556,829**	**n/a**	**n/a**	**591,227**	**591,227**	**n/a**
OTHERS	n/a	56,700	56,700	n/a	n/a	56,500	56,500	n/a
WORLD TOTAL	**n/a**	**5,393,529**	**5,393,529**	**n/a**	**n/a**	**4,807,727**	**4,807,727**	**n/a**
WORLD CONSUMPTION (Supply-End. Stock)				**5,393,529**				

*Harvest from January '24 through June '24 (northern hemisphere) and from Sept '24 through February '25 (southern hemisphere). Source: INC.

Hazelnuts

榛子 / بندق / हेज़लनट्स / Avellana / Avelãs / Noisette / Findik

The information contained herein was prepared between mid-September and October 2024.

Türkiye. Harvest began on schedule, drying conditions were favorable and there were no significant delays. After a dryer-than-average summer and populous brown marmorated stink bug (BMSB) presence, crop size and quality varied across regions. Yields were average overall but lower in areas with high BMSB incidence. Quality, in general, is lower than last season, but larger crops in some areas mitigated some of the season's challenges. Some industry sources anticipate a lower crop; however, at the time of this report, the extent of the reduction was uncertain.

The Turkish Grain Board (TMO) launched the procurement campaign with in-shell hazelnuts priced at 130 TL/kg. As reported by the Black Sea Hazelnut Exporters Association, total exports in 2023/24 (July-August) reached 303,458 metric tons (kernel basis), up 1.64% from 2022/23. Outlook for this season's shipments was, at the time of reporting, optimistic and expected to reach up to 310,000 MT.

Italy. The 2024/25 crop was revised down to approximately 95,000 MT. A dry, hot summer adversely affected pollination, particularly in the Piedmont region. Wet conditions during harvest impacted yield and quality. Consequently, the industry is facing higher production costs from extra sorting needed to address quality issues.

USA. By mid-September, harvest in Oregon was well underway with excellent weather conditions. In-shell nut sizing is better than the previous crop and above historical averages. Kernels appear to be well filled. Some elevated blank/unfilled counts have been reported, but in rather isolated observations. Other kernel defects remain very low and should provide for superior quality.

Chile. In Maule, a shortage of chilling hours followed by a chilly spring led to an overall reduced yield. However, the impact was partially mitigated by new orchards entering production. In the central and southern producing regions, harvest was slowed by rainfall. Nonetheless, these regions experienced more stable yields and quality remained high, thanks to efficient drying processes. Based on winter conditions, the outlook for the 2025 harvest is positive.

Estimated World Hazelnut Production. In-shell Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
TÜRKIYE	215,000	650,000	**865,000**	135,000	135,000	785,000	**920,000**	150,000
ITALY	5,000	87,300	**92,300**	2,000	2,000	95,000	**97,000**	5,000
USA	2,500	84,500	**87,000**	1,000	1,000	87,500	**88,500**	1,000
CHINA	2,800	60,000	**62,800**	2,000	2,000	75,000	**77,000**	1,500
AZERBAIJAN	2,000	65,000	**67,000**	4,000	4,000	70,000	**74,000**	4,000
CHILE	5,000	65,300	**70,300**	2,600	2,600	60,800	**63,400**	1,000
GEORGIA	2,500	40,000	**42,500**	1,400	1,400	45,000	**46,400**	1,000
IRAN	600	18,000	**18,600**	2,000	2,000	18,000	**20,000**	0
SPAIN	200	9,500	**9,700**	500	500	12,000	**12,500**	600
FRANCE	0	12,000	**12,000**	2,000	2,000	8,500	**10,500**	0
OTHERS	0	31,000	**31,000**	0	0	31,600	**31,600**	0
WORLD TOTAL	**235,600**	**1,122,600**	**1,358,200**	**152,500**	**152,500**	**1,288,400**	**1,440,900**	**164,100**
WORLD CONSUMPTION (Supply-End. Stock)				**1,205,700**				

Estimated World Hazelnut Production. Kernel Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
TÜRKIYE	107,500	325,000	**432,500**	67,500	67,500	392,500	**460,000**	75,000
ITALY	2,150	39,700	**41,850**	910	910	40,000	**40,910**	2,275
USA	1,100	37,200	**38,300**	440	440	38,500	**38,940**	440
CHINA	1,120	24,000	**25,120**	800	800	30,000	**30,800**	600
AZERBAIJAN	880	25,000	**25,880**	1,500	1,500	28,000	**29,500**	1,600
CHILE	2,150	28,100	**30,250**	1,120	1,120	26,100	**27,220**	430
GEORGIA	925	14,500	**15,425**	500	500	16,700	**17,200**	370
IRAN	270	7,600	**7,870**	840	840	7,560	**8,400**	0
SPAIN	90	4,300	**4,390**	225	225	5,400	**5,625**	270
FRANCE	0	4,800	**4,800**	800	800	3,400	**4,200**	0
OTHERS	0	13,000	**13,000**	0	0	13,300	**13,300**	0
WORLD TOTAL	**116,185**	**523,200**	**639,385**	**74,635**	**74,635**	**601,460**	**676,095**	**80,985**
CONSUMPTION (Supply-End. Stock)				**564,750**				

Sources: Black Sea Hazelnut Exporters Association, China Chamber of Commerce for Import and Export of Foodstuffs, Georgian Hazelnut Growers Association, AEOFRUSE and other INC sources. Season 2023/2024 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres.

Macadamias

夏威夷果 / مكاديميا / मैकाडामिया / Macadamia / Macadâmias / Macadamia / Makedemia cevizi

The information contained herein was prepared between mid-September and October 2024.

South Africa. Macadamias South Africa (SAMAC) revised down the 2024 crop forecast to 83,726 metric tons (in-shell basis, 1.5% NIS moisture content / 85,461 MT at 3.5% m.c.). Despite high temperatures leading to reduced yields and smaller nut sizes, along with increased pressure from the stink bug pest, yields and quality remain exceptionally high, resulting in a marginal recovery in the price of macadamias.

Australia. At the time of this report, the 2024 crop forecast remained unchanged from the previous review in early July, 5% larger than last year, with better kernel recovery, nut size and overall quality. The next update from the Australian Macadamia Society is set to be announced in early December.

The 2024 harvest season has been tough for many growers due to prolonged heat followed by extended wet weather, which caused yield losses in key regions. In Bundaberg, the largest macadamia region, growers experienced slightly lower production than expected due to early-season heat, while in other regions, wet conditions delayed harvesting.

Kenya. Despite some weather disruptions, commercial farms maintained a solid performance in both volume and quality. Planted area is projected to increase by 8-12% in 2024.

The lifting of the nut-in-shell (NIS) sales ban in November 2023, for a 12-month period, resulted in increased sales to China, boosting farm gate prices. As of this report, processors' 2024 kernel stock was mostly sold, with demand from the EU and China rising year-on-year and US demand picking up in Q3. Local and regional consumption in East Africa has seen marginal year-on-year growth.

Estimated World Macadamia Production. In-shell Basis · Metric Tons

Country	2023				2024			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
SOUTH AFRICA*	n/r	79,700	**79,700**	n/r	n/r	85,500	**85,500**	n/r
CHINA	n/r	67,900	**67,900**	n/r	n/r	69,500	**69,500**	n/r
AUSTRALIA	n/r	48,400	**48,400**	n/r	n/r	50,830	**50,830**	n/r
KENYA	n/r	42,500	**42,500**	n/r	n/r	46,000	**46,000**	n/r
USA	n/r	15,100	**15,100**	n/r	n/r	15,000	**15,000**	n/r
VIET NAM	n/r	9,000	**9,000**	n/r	n/r	10,000	**10,000**	n/r
MALAWI	n/r	12,540	**12,540**	n/r	n/r	10,000	**10,000**	n/r
GUATEMALA	n/r	14,500	**14,500**	n/r	n/r	11,000	**11,000**	n/r
BRAZIL	n/r	7,685	**7,685**	n/r	n/r	6,500	**6,500**	n/r
COLOMBIA	n/r	1,100	**1,100**	n/r	n/r	1,100	**1,100**	n/r
OTHERS	n/r	17,000	**17,000**	n/r	n/r	17,100	**17,100**	n/r
WORLD TOTAL	**n/r**	**315,425**	**315,425**	**n/r**	**n/r**	**322,530**	**322,530**	**n/r**
ESTIMATED WORLD CONSUMPTION (Supply-End. Stock)				**315,425**				

Estimated World Macadamia Production. Kernel Basis · Metric Tons

Country	2023				2024			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
SOUTH AFRICA*	n/r	25,500	**25,500**	n/r	n/r	27,400	**27,400**	n/r
CHINA	n/r	16,900	**16,900**	n/r	n/r	17,400	**17,400**	n/r
AUSTRALIA	n/r	15,500	**15,500**	n/r	n/r	16,300	**16,300**	n/r
KENYA	n/r	8,500	**8,500**	n/r	n/r	9,280	**9,280**	n/r
USA	n/r	3,300	**3,300**	n/r	n/r	3,300	**3,300**	n/r
VIET NAM	n/r	2,700	**2,700**	n/r	n/r	3,000	**3,000**	n/r
MALAWI	n/r	3,115	**3,115**	n/r	n/r	2,500	**2,500**	n/r
GUATEMALA	n/r	2,850	**2,850**	n/r	n/r	2,200	**2,200**	n/r
BRAZIL	n/r	1,920	**1,920**	n/r	n/r	1,625	**1,625**	n/r
COLOMBIA	n/r	220	**220**	n/r	n/r	220	**220**	n/r
OTHERS	n/r	4,250	**4,250**	n/r	n/r	4,275	**4,275**	n/r
WORLD TOTAL	**n/r**	**84,755**	**84,755**	**n/r**	**n/r**	**87,500**	**87,500**	**n/r**
ESTIMATED WORLD CONSUMPTION (Supply-End. Stock)				**84,755**				

Sources: Macadamias South Africa, China Chamber of Commerce for Import and Export of Foodstuffs, Australian Macadamia Society, Nut Processors Association of Kenya, USDA, Brazilian Macadamia Association and other INC sources. Reported at 3.5% nut-in-shell moisture content. n/r: not reported or not relevant.
*Macadamias South Africa reports at 1.5% NIS m.c., the 3.5% figure is based on INC calculations.

Pecans

碧根果 / بقان / पेकान / Pacana / Nozes / Noix de pécan / Pekan cevizi

The information contained herein was prepared between mid-September and October 2024.

USA. Prior to Hurricane Helene, which struck Georgia on September 26, a total crop of about 140,161 metric tons was anticipated, based on industry sources. While at the time of reporting it was still too early to assess the damage, preliminary indications were that Georgia lost between 9,000 and 14,000 MT of production. Many orchards lost 50-100% of their trees, so the impact will be felt for the foreseeable future.

The USDA's first major revisions to the US Grade Standards for in-shell and shelled pecans since 1969 became effective on July 26. These updates will improve product marketing, resolve outdated and unclear standards, and introduce uniform quality guidelines for processors. The American Pecan Council, with support from the National Pecan Shellers Association, is collaborating with the USDA to identify areas that require further clarification.

Mexico. The 2024/25 crop is projected to reach 129,600 MT, 9% down from 2023/24. This decrease is primarily attributed to rising input costs and unfavorable weather conditions. Record-high temperatures combined with inadequate water supply have impacted the management ability of small to medium-sized growers.

By mid-September, large US and Mexican domestic retailers were securing large volumes to cover their needs through the fall. European buyers also secured their kernel supplies but were already seeking to lock in contracts before the market went up. Trade activity for US and Mexico-origin in-shell pecans continued to slow as prices were too high for shellers to compete in the export markets.

South Africa. This season's crop exceeded the early estimate, mainly due to a larger-than-expected Choctaw crop. Most of the crop was sold in-shell to China by early September, with buyers prioritizing kernel yield over NIS size.

Overall quality was good. Investments in advanced sorting technology are improving lower-grade products. However, there is some concern about the industry fragmentation squeezing margins and hindering investment in processing.

China. Unusual weather patterns —drought during nut setting and a monsoon at harvest— have reduced production with respect to earlier expectations.

Australia. Despite delays caused by a wet winter, harvest was completed by mid-September. Actual yields came in below early projections, partly due to adverse weather conditions. The market remained tight, with stable pricing facing upward pressure; demand remained strong.

Estimated World Pecan Production. In-shell Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
USA*	56,452	139,141	**195,593**	63,504	63,504	140,161	**203,665**	63,504
MEXICO	0	141,850	**141,850**	2,000	2,000	129,600	**131,600**	2,000
SOUTH AFRICA	1,300	23,000	**24,300**	700	700	36,000	**36,700**	1,000
CHINA	0	6,000	**6,000**	50	50	5,500	**5,550**	50
BRAZIL	0	4,500	**4,500**	0	0	3,500	**3,500**	0
ARGENTINA	0	3,000	**3,000**	0	0	3,300	**3,300**	0
AUSTRALIA	0	2,400	**2,400**	0	0	2,540	**2,540**	0
OTHERS	0	3,600	**3,600**	0	0	3,600	**3,600**	0
WORLD TOTAL	**57,752**	**323,491**	**381,243**	**66,254**	**66,254**	**324,201**	**390,455**	**66,554**
WORLD CONSUMPTION (Supply-End. Stock)				**314,989**				

Estimated World Pecan Production. Kernel Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
USA*	28,226	69,571	**97,797**	31,752	31,752	70,081	**101,833**	31,752
MEXICO	0	70,925	**70,925**	1,000	1,000	64,800	**65,800**	1,000
SOUTH AFRICA	650	11,500	**12,150**	350	350	18,200	**18,550**	510
CHINA	0	3,000	**3,000**	25	25	2,750	**2,775**	25
BRAZIL	0	2,200	**2,200**	0	0	1,750	**1,750**	0
ARGENTINA	0	1,500	**1,500**	0	0	1,650	**1,650**	0
AUSTRALIA	0	1,250	**1,250**	0	0	1,321	**1,321**	0
OTHERS	0	1,800	**1,800**	0	0	1,800	**1,800**	0
WORLD TOTAL	**28,876**	**161,746**	**190,622**	**33,127**	**33,127**	**162,352**	**195,479**	**33,287**
WORLD CONSUMPTION (Supply-End. Stock)				**157,495**				

Sources: COMENUEZ, South African Pecan Nut Producers Association, Brazilian Associations of Nuts and Dried Fruits, Argentine Pecan Committee and other INC sources. Season 2023/2024 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres. *The 2024/25 US forecast is based on data prior to the impact of Hurricane Helene.

Pine Nuts

松子 / صنوبر / पाइन नट्स / Piñón / Pinhões / Pignon / Çam fistigi

The information contained herein was prepared between September and October 2024.

Asia. *Pinus koraiensis:* The 2024/25 crop was, at the time of reporting, forecasted at around 100,000 metric tons (in-shell basis). Russia was expecting a bumper crop of up to 30,000 MT. However, owing to price constraints and governmental export restrictions, only half of this amount was anticipated to be harvested and most of this volume was foreseen to remain within the country. In North Korea, the crop was forecasted at 40,000 MT, but due to trade restrictions, only a small fraction was projected to reach China. *Pinus sibirica:* For the second consecutive year, the Russian crop has been notably low, contrary to earlier expectations of an average harvest, resulting in a projected crop of 3,000-4,000 MT in-shell. Of this, approximately 500 MT of kernels were anticipated to be exported to Europe, with the remaining supply designated for the domestic market. Global supply was foreseen to remain tight.

Mediterranean. Following last season's bumper crop, Türkiye was expecting a production 31% shorter at the time of this report. Wildfires in Portugal were estimated to have affected production significantly, particularly in northward areas. The Spanish crop is projected to be poor, largely attributed to previous years of drought. Nonetheless, there are stocks in warehouses in Türkiye and Spain that are expected to be cleared, which may influence market dynamics.

Estimated World Pine Nut Production. In-shell Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
ASIA (Pinus koraiensis, P. sibirica, P. yunnanensis* and *P. gerardiana)								
CHINA	40,000	33,500	**73,500**	29,500	29,500	48,000	**77,500**	n/a
NORTH KOREA	8,000	15,000	**23,000**	2,000	2,000	40,000	**42,000**	n/a
RUSSIA (Siberia)	2,500	6,500	**9,000**	800	800	19,000	**19,800**	n/a
AFGHANISTAN	2,000	4,400	**6,400**	320	320	2,300	**2,620**	n/a
MONGOLIA	500	5,000	**5,500**	500	500	1,000	**1,500**	n/a
PAKISTAN	1,500	4,300	**5,800**	980	980	800	**1,780**	n/a
SUBTOTAL	**54,500**	**68,700**	**123,200**	**34,100**	**34,100**	**111,100**	**145,200**	**n/a**
MEDITERRANEAN (Pinus pinea)								
TÜRKIYE	830	5,400	**6,230**	510	510	3,700	**4,210**	n/a
ITALY	0	950	**950**	0	0	1,050	**1,050**	n/a
PORTUGAL	960	700	**1,660**	310	310	500	**810**	n/a
SPAIN	790	2,070	**2,860**	250	250	500	**750**	n/a
OTHERS	0	360	**360**		0	340	**340**	n/a
SUBTOTAL	**2,580**	**9,480**	**12,060**	**1,070**	**1,070**	**6,090**	**7,160**	**n/a**
WORLD TOTAL	**57,080**	**78,180**	**135,260**	**35,170**	**35,170**	**117,190**	**152,360**	**n/a**
WORLD CONSUMPTION (Supply-End. Stock)				**100,090**				

Estimated World Pine Nut Production. Kernel Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
ASIA (Pinus koraiensis, P. sibirica, P. yunnanensis* and *P. gerardiana)								
CHINA	10,000	8,375	**18,375**	7,375	7,375	12,000	**19,375**	n/a
NORTH KOREA	2,000	3,750	**5,750**	500	500	10,000	**10,500**	n/a
RUSSIA (Siberia)	625	1,800	**2,425**	220	220	5,300	**5,520**	n/a
AFGHANISTAN	970	2,200	**3,170**	160	160	1,180	**1,340**	n/a
PAKISTAN	720	2,150	**2,870**	490	490	410	**900**	n/a
MONGOLIA	125	1,250	**1,375**	125	125	250	**375**	n/a
SUBTOTAL	**14,440**	**19,525**	**33,965**	**8,870**	**8,870**	**29,140**	**38,010**	**n/a**
MEDITERRANEAN (Pinus pinea)								
TÜRKIYE	200	1,300	**1,500**	120	120	820	**940**	n/a
ITALY	0	190	**190**	0	0	210	**210**	n/a
PORTUGAL	170	150	**320**	65	65	100	**165**	n/a
SPAIN	140	400	**540**	48	48	100	**148**	n/a
OTHERS	0	73	**73**	0	0	71	**71**	n/a
SUBTOTAL	**510**	**2,113**	**2,623**	**233**	**233**	**1,301**	**1,534**	**n/a**
WORLD TOTAL	**14,950**	**21,638**	**36,588**	**9,103**	**9,103**	**30,441**	**39,544**	**n/a**
WORLD CONSUMPTION (Supply-End. Stock)				**27,485**				

Sources: China Chamber of Commerce for Import and Export of Foodstuffs and other INC sources.

Pistachios

开心果 / فستق / पिस्ता / Pistacho / Pistácios / Pistache / Antep fistigi

The information contained herein was prepared between September and October 2024.

USA. Total shipments at the end of crop year 2023/24 were a record-setting 535,870 metric tons (1.2 billion pounds), a 31% increase from the prior record shipment of 409,087 MT (902 million lbs.) for the 2022/23 crop year. Shipments saw a significant increase due to several key factors. There was a notable rise in demand from international markets, particularly Europe and China. Europe saw shipments increase from 88,400 MT (195 M lbs.) in 2022/23 to 133,300 MT (294 M lbs.) in 2023/24. China saw shipments rise from 95,200 MT (210 M lbs.) to 165,100 MT (364 M lbs.) for the same years. Limited supply from Iran also helped sustain good demand from the Middle East and India throughout the year. Yields were also favorable for 2023/24, with a crop size of 678,000 MT (1.5 B lbs.), ensuring that there was enough supply to meet the heightened demand. Crop size for the upcoming 2024/25 crop year is considered an off year, estimated to be 499,000 MT (1.1 B lbs.). Early harvest receipts indicate good quality with relatively low stain levels.

Türkiye. Harvest of the largest-ever Turkish crop started in late July and was still ongoing by mid-September with no incidents reported. Kernel quality was good, and the early-harvest batches had already been shipped at the time of this report. Due to the large crop, the average size of pistachios this year is smaller, with an expected size range of 34/36.

This bumper crop has sparked interest from major consumer regions, where there was strong anticipation of a sharp price reduction. Kernel prices have already been adjusted downward. However, in-shell pistachios were still priced on the higher side. In comparison to the anticipated export volumes, the domestic market was expected to remain relatively stable throughout the year.

Iran. The Iran Pistachio Association adjusted the 2023/24 crop estimate to 168,000 MT and announced the 2024/25 crop forecast at 190,000 MT. The harvest began in mid-September and was expected to extend for a longer duration than usual. There were reports of higher-than-usual blanks and heat damage due to excessive summer temperatures and daily irrigation interruptions caused by widespread electricity shortages in the country. This will probably result in a downward revision of the 2024/25 crop forecast.

The 2023/24 marketing year closed with total exports of 133,000 MT (in-shell equivalent) and total domestic consumption was estimated at 25,000 MT. Export shipments during the summer exceeded expectations, averaging 10,000 MT monthly and reaching more than double the level of the same period in the previous year. In the last marketing month (August 23 – September 22), driven by Diwali demand, India led shipments at ca. 2,000 MT. Overall, shipments to the Indian subcontinent remained strong, with kernel shipments growing during the latter half of the 2023/24 crop year. Kernels and green peeled pistachio kernels (GPPK) accounted for 42% of this year's export shipments, compared to a four-year average of 35%. Demand for GPPK has been robust, with shipments to non-European destinations increasing throughout the year and adding up to about 40% of GPPK shipments.

Spain. Supply is expected to be more limited this season, primarily due to unfavorable weather conditions during blooming, coupled with 2024/25 being an off year. Additionally, new processing plants are emerging each year, with around 70 facilities now operating in the country.

Australia. The initial estimate for the 2025 crop, set to be harvested in March, is projected to range between 3,000 MT and 3,500 MT. Domestic pistachio consumption has seen a 7% increase over the past financial year, following two years of stagnant demand.

Estimated World Pistachio Production. In-shell Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
USA (M lbs)	164	1,493	**1,657**	185	185	1,100	**1,285**	166
USA (MT)	74,400	677,900	**752,300**	83,900	83,900	499,400	**583,300**	75,400
TÜRKIYE	95,000	180,000	**275,000**	50,000	50,000	415,500	**465,500**	243,400
IRAN	20,000	168,000	**188,000**	30,000	30,000	190,000	**220,000**	30,000
SYRIA	0	25,500	**25,500**	0	0	28,050	**28,050**	0
GREECE	0	4,500	**4,500**	0	0	7,500	**7,500**	300
SPAIN	0	6,000	**6,000**	0	0	5,000	**5,000**	0
AUSTRALIA	0	1,400	**1,400**	0	0	4,450	**4,450**	0
ITALY	50	4,100	**4,150**	0	0	2,800	**2,800**	0
AFGHANISTAN	0	2,500	**2,500**	0	0	2,500	**2,500**	0
CHINA	0	500	**500**	0	0	300	**300**	0
WORLD TOTAL	**189,450**	**1,070,400**	**1,259,850**	**163,900**	**163,900**	**1,155,500**	**1,319,400**	**349,100**
WORLD CONSUMPTION (Supply-End. Stock)				**1,095,950**				

Sources 2023/24: Iran Pistachio Association, Greek Nuts & Fruits Trade Association, Australia Pistachio Growers' Association, Istat and other INC sources.
Sources 2024/25: Iran Pistachio Association, Greek Nuts & Fruits Trade Association, Australia Pistachio Growers' Association and other INC sources.
Season 2023/2024 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres.

Walnuts

核桃 / الجوز / अखरोट / Nuez / Nozes / Noix / Ceviz

The information contained herein was prepared between September and October 2024.

China. The 2024/25 crop forecast is 1.5 million metric tons (in-shell), a significant increase from last season, driven by favorable weather across key growing regions. Trees produced abundant but smaller fruit, with more double and triple berries. Harvesting began in August and was expected to continue through early October.

The selling season started much earlier, with strong demand and heavy bookings, securing early September shipments. The market remains firm ahead of the seasonal holidays, with record export volumes anticipated for Q4.

USA. According to the USDA 2024 California Walnut Industry Objective Measurement Report, production is forecast at 670,000 short tons (607,814 MT in-shell), down 19% from last year's record crop. Harvest began under favorable weather, which is expected to support good quality. The estimated carry-in is 92,000 MT, with over 75,545 MT already pre-committed.

The forecast is based on 150,000 hectares, with 8,500 ha coming into production over the next two years, and 54% of the orchards less than 15 years old, ensuring a strong future production base.

Chile. Chilenut reports year-to-date exports of 83,800 MT (in-shell equivalent), down 24% from last season. However, August exports matched last year at 19,400 MT. Shipments to Europe, both in-shell and shelled, increased compared to 2023 for August and year-to-date.

Estimated World Walnut Production. In-shell Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
CHINA	120,000	1,350,000	**1,470,000**	50,000	50,000	1,500,000	**1,550,000**	100,000
USA	127,000	747,000	**874,000**	92,000	92,000	607,814	**699,814**	75,000
CHILE	1,900	181,648	**183,548**	542	542	134,576	**135,118**	400
UKRAINE	8,000	78,000	**86,000**	1,000	1,000	100,800	**101,800**	1,600
TÜRKIYE	0	65,000	**65,000**	0	0	60,000	**60,000**	0
ROMANIA	3,000	34,500	**37,500**	1,000	1,000	40,000	**41,000**	1,200
IRAN	0	40,000	**40,000**	0	0	35,000	**35,000**	0
FRANCE	5,000	28,000	**33,000**	0	0	30,000	**30,000**	0
INDIA	0	35,000	**35,000**	10,000	10,000	33,000	**43,000**	12,000
ARGENTINA	3,000	20,000	**23,000**	1,000	1,000	25,000	**26,000**	0
MOLDOVA	0	18,100	**18,100**	300	300	20,800	**21,100**	400
ITALY	0	12,850	**12,850**	0	0	14,500	**14,500**	0
SPAIN	0	14,000	**14,000**	0	0	17,000	**17,000**	0
HUNGARY	0	14,000	**14,000**	0	0	14,000	**14,000**	0
AUSTRALIA	0	7,000	**7,000**	0	0	14,000	**14,000**	0
OTHERS	0	23,000	**23,000**	0	0	23,100	**23,100**	0
WORLD TOTAL	**267,900**	**2,668,098**	**2,935,998**	**155,842**	**155,842**	**2,669,590**	**2,825,432**	**190,600**
WORLD CONSUMPTION (Supply-End. Stock)				**2,780,156**				

Estimated World Walnut Production, Kernel Basis · Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
CHINA	52,800	594,000	**646,800**	22,000	22,000	660,000	**682,000**	44,000
USA*	50,900	327,900	**378,800**	40,500	40,500	267,400	**307,900**	32,900
CHILE	884	84,500	**85,384**	255	255	61,900	**62,155**	185
UKRAINE	3,520	31,600	**35,120**	410	410	36,000	**36,410**	580
TÜRKIYE	0	26,000	**26,000**	0	0	24,000	**24,000**	0
ROMANIA	1,350	15,300	**16,650**	440	440	17,600	**18,040**	530
IRAN	0	16,400	**16,400**	0	0	14,400	**14,400**	0
FRANCE	2,100	11,800	**13,900**	0	0	12,600	**12,600**	0
INDIA	0	11,600	**11,600**	3,300	3,300	10,900	**14,200**	4,000
ARGENTINA	1,300	8,600	**9,900**	430	430	10,700	**11,130**	0
MOLDOVA	0	8,000	**8,000**	132	132	9,000	**9,132**	170
ITALY	0	5,800	**5,800**	0	0	6,500	**6,500**	0
SPAIN	0	5,500	**5,500**	0	0	7,300	**7,300**	0
HUNGARY	0	6,020	**6,020**	0	0	6,020	**6,020**	0
AUSTRALIA	0	2,850	**2,850**	0	0	5,700	**5,700**	0
OTHERS	0	9,600	**9,600**	0	0	9,650	**9,650**	0
WORLD TOTAL	**112,854**	**1,165,470**	**1,278,324**	**67,467**	**67,467**	**1,159,670**	**1,227,137**	**82,365**
WORLD CONSUMPTION (Supply-End. Stock)				**1,210,857**				

Sources: California Walnut Board and Commission, Chilenut, Walnut Growers Association of Türkiye and other INC sources. *California Walnut Board and Commission does not measure in kernel basis. Kernel equivalent is an INC estimation. Season 2023/2024 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres.

Peanuts

花生 / فول سوداني / मूंगफली / Cacahuete / Amendoins / Cacahuète / Yer fistigi

The information contained herein was prepared between mid-September and October 2024.

China. According to the Chinese Chamber of Commerce, planted area saw an increase in 2024 compared to last year, primarily driven by declining prices of competing crops, especially corn. Planting grew by approximately 10%, with larger expansions in the major producing provinces of Henan and Jilin.

Weather conditions throughout the growing regions have been challenging, particularly in Henan province and in western Shandong province, where, early in the sowing season, excessive heat and drought hampered growth, followed by heavy rainfall, which led to root issues and adversely affected yield per land area. Nonetheless, overall production was expected to remain high due to the increased planting area.

As the new peanut harvest season has progressed, major producing areas like Henan and Shandong have begun listing their peanuts, with northeastern provinces expected to follow as of October. The opening prices for the edible grade were set at approximately US$1,270 per metric ton, while oil peanuts were priced at around US$1,130 per MT. However, the abundant supply and weak downstream demand have contributed to a decline in both peanut futures and spot prices. Lower prices benefit the export of high-quality edible peanuts. In contrast, countries aiming to export oil peanuts to China need to remain competitive in the Chinese market.

USA. As per the U.S. Department of Agriculture (USDA) October 2024 Crop Production Report, Hurricane Helene, which made landfall in late September 2024, affected several agricultural regions, including peanut-growing areas in Alabama, Georgia, and the Carolinas. However, the full impact of the storm might not be reflected until future reports.

Peanut production for 2024 showed an overall increase in both planted and harvested areas compared to the previous year. Total peanut planted area reached 1.81 million acres (732,300 hectares), up 10% from 2023. Similarly, the area harvested grew by 12% to 1.75 M acres (708,400 ha). Georgia, the largest peanut-producing state, reported an expansion of 10% in its harvested acreage, estimated at 845,000 acres (342,100 ha). Texas, with 210,000 acres (85,000 ha), saw an increase of 27%. Alabama's area rose 9%, to 186,000 acres (75,300 ha), while Florida's expanded 6%, to 161,000 acres (65,200 ha).

Yield was forecasted at 3,683 pounds per acre (4.12 MT/ha), 2% down from 2023. However, driven by the overall increased acreage, total production was expected to increase 10%, reaching 6.44 billion lbs. (2.92 M MT). Georgia's crop was forecasted to reach 3.21 B lbs. (1.46 M MT), an increase of 2% from 2023. Alabama was expected to produce 614 M lbs. (278,400 MT), 30% higher than the previous year. Florida's crop was projected 14% up, at 596 M lbs. (270,200 MT). Texas was also expected to see an increase, with production projected at 525 M lbs. (238,100 MT), up by 14% from last year.

Argentina. The Argentine Chamber of Commerce reported that 416,490 ha were planted for the 2024/25 marketing year and 416,039 ha were harvested. Yield was estimated at 3.8 MT/ha on an in-shell basis (2.7 MT/ha kernel basis), resulting in a production of 1,604,722 MT on an in-shell basis (1,123,305 MT kernel basis), up by 71% from the 2023/24 marketing year. Exports were, at the time of this report, projected at 740,950 MT of shelled peanuts. Domestic demand, including blanching losses, milling and seed use, was anticipated to reach 344,695 MT.

Estimated World Peanut Production. In-shell Basis · 1000 Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
CHINA	92	17,990	**18,082**	285	285	18,010	**18,295**	370
INDIA	328	6,000	**6,328**	305	305	7,100	**7,405**	357
NIGERIA	449	4,300	**4,749**	463	463	4,300	**4,763**	442
USA	922	2,666	**3,588**	672	672	2,922	**3,594**	722
SENEGAL	577	1,728	**2,305**	540	540	1,700	**2,240**	580
ARGENTINA	98	940	**1,038**	60	60	1,605	**1,665**	114
BRAZIL	35	734	**769**	27	27	900	**927**	31
INDONESIA	102	880	**982**	76	76	840	**916**	110
GHANA	47	600	**647**	47	47	550	**597**	32
VIET NAM	44	383	**427**	32	32	370	**402**	32
COTE D'IVOIRE	0	240	**240**	0	0	240	**240**	0
NICARAGUA	0	201	**201**	0	0	215	**215**	0
MEXICO	21	80	**101**	26	26	85	**111**	27
SOUTH AFRICA	21	75	**96**	24	24	80	**104**	25
OTHERS	1,321	10,915	**12,236**	1,037	1,037	11,662	**12,699**	1,139
WORLD TOTAL	**4,057**	**47,732**	**51,789**	**3,594**	**3,594**	**50,579**	**54,173**	**3,981**
WORLD CONSUMPTION (Supply-End. Stock)				**48,194**				

Sources: China Chamber of Commerce for Import and Export of Foodstuffs, USDA, Argentine Chamber of Peanuts (CAM) and other INC sources. Season 2023/2024 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres.

Dates

खजूर / تمر / 椰枣 / Dátil / Tâmaras / Datte / Hurma

The information contained herein was prepared between mid-September and October 2024.

The 2024/25 Medjool harvest began on time but progressed slower than expected, with heat waves potentially impacting fruit size. Deglet Noor saw a slight drop in bunches number and reduced pollen availability, with rain and wind impacting quality during key growth months.

Despite seasonal variability, global production is rising, especially in Saudi Arabia, Egypt and Morocco, as new plantations mature, and overall quality has significantly improved in Algeria and Tunisia. Worldwide demand continues to grow year-round, and exports for the 2024/25 season are expected to increase for both edible dates and date-based ingredients.

Estimated World Table Date Production. Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
SAUDI ARABIA	100,000	350,000	**450,000**	110,000	110,000	270,000	**380,000**	115,000
EGYPT	5,000	200,000	**205,000**	20,000	20,000	180,000	**200,000**	22,000
UAE	30,000	160,000	**190,000**	40,000	40,000	170,000	**210,000**	44,000
ALGERIA	5,000	140,000	**145,000**	20,000	20,000	140,000	**160,000**	22,000
IRAN	15,000	135,000	**150,000**	7,500	7,500	130,000	**137,500**	7,000
TUNISIA	3,000	135,000	**138,000**	15,000	15,000	120,000	**135,000**	5,000
IRAQ	2,000	65,000	**67,000**	12,000	12,000	70,000	**82,000**	15,000
MOROCCO	5,000	50,000	**55,000**	6,000	6,000	40,000	**46,000**	8,000
ISRAEL	3,000	40,000	**43,000**	10,000	10,000	35,000	**45,000**	11,000
USA	12,000	30,000	**42,000**	12,000	12,000	25,000	**37,000**	11,000
OMAN	7,000	26,000	**33,000**	6,000	6,000	25,000	**31,000**	5,500
PAKISTAN	0	25,000	**25,000**	5,000	5,000	25,000	**30,000**	6,000
SUDAN	2,500	8,000	**10,500**	1,000	1,000	6,000	**7,000**	1,000
LIBYA	300	3,000	**3,300**	300	300	3,000	**3,300**	300
OTHERS	20,000	40,000	**60,000**	25,000	25,000	39,800	**64,800**	30,000
WORLD TOTAL	**209,800**	**1,407,000**	**1,616,800**	**289,800**	**289,800**	**1,278,800**	**1,568,600**	**302,800**
WORLD CONSUMPTION (Supply-End. Stock)				**1,327,000**				

Source: INC. These data concern only dates that have been packaged and presented for sale as such. They account for about 15% of global production of raw dates. Dates consumed in bulk and those destined for processing are not included.

Dried Apricots

杏脯 / مشمش مجفف / सूखे खुबानी / Orejón / Damascos secos / Abricot sec / Kuru kayisi

The information contained herein was prepared between mid-September and October 2024.

Türkiye. As reported by the Aegean Exporters' Association, 2024/25 production was, at the time of reporting, forecasted 23% up from 2023/24, at 107,517 metric tons. From August 1 to October 19, 2024, dried apricot exports increased by 36% compared to the same period the previous year, reaching over 22,100 MT. Major markets include the USA, Germany, and France, which showed notable demand growth, along with East Asia.

Estimated World Dried Apricot Production. Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
TÜRKIYE	7,000	87,170	**94,170**	7,000	7,000	107,517	**114,517**	10,000
IRAN	0	26,000	**26,000**	0	0	25,000	**25,000**	0
UZBEKISTAN	0	10,000	**10,000**	0	0	12,000	**12,000**	0
TAJIKISTAN	0	7,500	**7,500**	0	0	7,000	**7,000**	0
CHINA	0	3,750	**3,750**	0	0	4,900	**4,900**	0
AFGHANISTAN	0	5,000	**5,000**	0	0	3,500	**3,500**	0
USA	0	1,700	**1,700**	0	0	1,800	**1,800**	0
SOUTH AFRICA	0	1,057	**1,057**	0	0	1,100	**1,100**	0
OTHERS	0	30,200	**30,200**	0	0	30,800	**30,800**	0
WORLD TOTAL	**7,000**	**172,377**	**179,377**	**7,000**	**7,000**	**193,617**	**200,617**	**10,000**
WORLD CONSUMPTION (Supply-End. Stock)				**172,377**				

Sources 2023/24: Aegean Exporters' Association, Iran Dried Fruit Exporters Association, and other INC sources. Sources 2024/25: Aegean Exporters' Association and INC. Season 2023/24 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres.

Dried Cranberries

小紅莓 / التوت البري المجفف / सूखे क्रैनबेरी / Arándano rojo / Airelas secas / Canneberge séchée / Keçiyemisi

The information contained herein was prepared between mid-September and October 2024.

At the time of reporting, the 2024 fresh crop was estimated at 12.8 million barrels, up 1.1% from last year. East Canada's crop was larger, while Wisconsin's was slightly down, and Massachusetts remained stable. Global demand for dried cranberries has grown in 2024, driven by new product launches and recovery from 2023's higher retail prices.

Estimated World Sweetened Dried Cranberry Production, Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
USA	9,740	131,721	**141,461**	9,367	9,367	142,321	**151,688**	8,880
CANADA	3,890	42,189	**46,079**	3,678	3,678	49,560	**53,238**	3,250
CHILE	557	9,890	**10,447**	360	360	10,670	**11,030**	378
WORLD TOTAL	**14,187**	**183,800**	**197,987**	**13,405**	**13,405**	**202,551**	**215,956**	**12,508**
WORLD CONSUMPTION (Supply-End. Stock)				**184,582**				

Source: INC. The cranberry crop is harvested in the fall. End of year statistics are measured as of August 31. 2024/2025 represents the estimate of production and supply through August 31, 2025.

Dried Figs

无花果 / التين المجفف / सूखे अंजीर / Higo seco / Figos secos / Figue sec / Kuru incir

The information contained herein was prepared between mid-September and October 2024.

Türkiye. As per the Aegean Exporters' Association, 2023/24 exports (October 6, 2023-September 21, 2024) amounted to 63,749 metric tons. Key markets included the EU (which accounted for the largest share), the USA and Canada. Notable growth was seen in Canada and the USA despite a slight overall volume decline.

Estimated World Dried Fig Production, Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
TÜRKIYE	7,000	67,000	**74,000**	8,000	8,000	78,832	**86,832**	5,000
IRAN	0	26,000	**26,000**	6,000	6,000	27,000	**33,000**	6,200
AFGHANISTAN	0	22,000	**22,000**	1,000	1,000	15,000	**16,000**	0
SPAIN	1,300	6,800	**8,100**	0	0	12,000	**12,000**	1,200
USA	1,500	6,700	**8,200**	1,500	1,500	7,300	**8,800**	1,000
GREECE	100	2,500	**2,600**	50	50	4,000	**4,050**	300
ITALY	0	1,000	**1,000**	0	0	2,500	**2,500**	0
OTHERS	0	5,600	**5,600**	0	0	5,700	**5,700**	0
WORLD TOTAL	**9,900**	**137,600**	**147,500**	**16,550**	**16,550**	**152,332**	**168,882**	**13,700**
WORLD CONSUMPTION (Supply-End. Stock)				**130,950**				

Sources 2023/24: Aegean Exporters' Association, Iran Dried Fruit Exporters Association, Greek Nuts & Fruits Trade Association and other INC sources. Sources 2024/25: Aegean Exporters' Association, Greek Nuts & Fruits Trade Association and other INC sources.

Prunes

西梅 / البرقوق المجفف / प्रून / Ciruela seca / Ameixas secas / Pruneau / Kuru erik

The information contained herein was prepared between mid-September and October 2024.

USA. The California Prune Board estimates the 2024 production at around 65,000 metric tons. Despite prolonged high temperatures and a later-than-usual harvest, growers worked diligently to minimize the impact. This resulted in a high-quality crop, with only a moderate production volume loss.

Chile. As reported by Chile Prunes, adequate cold hours have been recorded during last winter, along with good water availability. As of this report, no frost events have occurred and fruit set has been satisfactory, indicating a positive start to the season.

Estimated World Prune Production. Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
USA	36,204	82,000	**118,204**	51,160	51,160	65,000	**116,160**	n/a
CHILE	10,000	68,000	**78,000**	14,000	14,000	60,000	**74,000**	n/a
FRANCE	13,500	40,500	**54,000**	24,000	24,000	30,000	**54,000**	n/a
ARGENTINA	3,000	33,000	**36,000**	5,000	5,000	25,000	**30,000**	n/a
SERBIA	1,000	5,000	**6,000**	1,000	1,000	4,800	**5,800**	n/a
AUSTRALIA	0	900	**900**	0	0	2,200	**2,200**	n/a
ITALY	500	1,450	**1,950**	650	650	1,600	**2,250**	n/a
SOUTH AFRICA	0	604	**604**	0	0	750	**750**	n/a
WORLD TOTAL	**64,204**	**231,454**	**295,658**	**95,810**	**95,810**	**189,350**	**285,160**	**n/a**
ESTIMATED WORLD CONSUMPTION (Supply-End. Stock)				**199,848**				

Sources: California Prune Board, Chile Prunes Association, Bureau National Interprofessionel du Pruneau (France), Australian Prune Industry Association and other INC sources. Season 2023/24 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres.

Raisins, Sultanas & Currants

葡萄干 / الزبيب / किशमिश / Uva pasa / Passas / Raisin sec / Kuru üzüm

The information contained herein was prepared between September and October 2024.

Türkiye. At the time of this report, production was estimated at 226,239 metric tons, as reported by the Aegean Exporters Association. International shipments in 2023/24 (September 1, 2023 – August 31, 2024) amounted to 207,272 MT, 20% below 2022/23. Europe, the top market, added up to 104,821 MT, down by 22%. The UK, with 53,830 MT, was also down by 17%, while Asia was up 1%, at 53,830 MT. Year-to-date exports (September 1 – October 5, 2024) totaled 22,672 MT, 24% below 2023.

Iran. According to industry sources, this year's harvest was healthy and abundant. Excellent production was expected in terms of both quantity (approximately 190,000 MT) and quality.

USA. The production season in California experienced good growing conditions during spring and summer. Budbreak and bloom were one to two weeks earlier than normal. Although the extreme heat last July slowed the sugar accumulation process, an early to normal harvest was expected. Little rain was received during August and September, and good weather was anticipated to continue until the end of the drying season. This year's crop is expected to be of excellent quality with good sugar solids. Both domestic and export shipments are expected to pick up in October/November which is when the 2024/25 crop would become available.

China. At the time of reporting, production was estimated at 130,000 MT. According to industry sources, raw material costs for Chinese Sultanas have doubled compared to the last harvest. Consequently, the price of finished products has risen from US$1,700 per MT to US$2,400 per MT, and many farmers opted to grow Sultanas instead of green raisins, leading to a shortage of green raisins and a price increase of 20-30%. As a result, buyers have become more cautious and were delaying their purchases.

South Africa. Although it was still too early to provide a precise estimate of the upcoming production at the time of reporting, several factors might still influence the outcome, including the risk of frost during October and heat waves during October and November as the vines transition from budbreak to flowering, as well as the critical role of rainfall during harvest. Nonetheless, the outlook remained optimistic. With healthy vines observed, weather permitting, the crop could range between 90,000 MT and 110,000 MT of farmer stock and 93,000 MT of product available for the market for the 2024/25 marketing period.

Chile. Production for this season was estimated at 60,000 MT (53,000 MT dark raisins and 7,000 MT golden raisins). In Chile, grapes that do not meet the export standards for fresh produce are left in the vineyards and used for raisin production. This season's favorable prices motivated growers to harvest the entire crop, resulting in a harvest that exceeded initial expectations.

Looking ahead to the 2025 harvest, which is set to begin in January/February, the outlook appears positive. There was a good water supply for the summer, and the weather conditions during budding and flowering were favorable.

Argentina. Industry sources reported a production of 38,000 MT, along with an additional 1,500 MT of initial inventory. For the 2025 harvest projections were still uncertain. Water availability remains a concern, but overall, the season was expected to be normal.

Australia. The 2024 crop intake reached 11,875 MT, marking a strong recovery from the previous year's losses caused by downy mildew. Although the Sultana is recovering slowly, other varieties have shown quicker progress.

Early budburst for the 2025 crop, forecasted at 15,800 MT, looked healthy, supported by favorable growing conditions. With new variety plantings and improved yields, production is expected to increase steadily, potentially reaching 20,000 MT in the coming years.

Estimated World Raisin / Sultana / Currant Production. Metric Tons

Country	2023/2024				2024/2025			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
TÜRKIYE	70,000	206,346	**276,346**	10,000	10,000	226,239	**236,239**	10,000
INDIA	0	270,000	**270,000**	0	0	275,000	**275,000**	0
IRAN	8,000	150,000	**158,000**	0	0	190,000	**190,000**	10,000
USA	59,000	155,000	**214,000**	44,000	44,000	178,000	**222,000**	47,000
CHINA	20,000	150,000	**170,000**	5,000	5,000	130,000	**135,000**	5,000
SOUTH AFRICA	6,000	89,700	**95,700**	0	0	93,000	**93,000**	0
UZBEKISTAN	0	60,500	**60,500**	3,000	3,000	63,000	**66,000**	0
CHILE	10,000	57,000	**67,000**	3,000	3,000	60,000	**63,000**	2,000
ARGENTINA	1,500	30,000	**31,500**	1,500	1,500	38,000	**39,500**	1,000
GREECE	7,000	12,000	**19,000**	0	0	14,000	**14,000**	1,000
AFGHANISTAN	1,000	15,000	**16,000**	1,000	1,000	12,000	**13,000**	0
AUSTRALIA	450	7,309	**7,759**	200	200	11,875	**12,075**	200
OTHERS	0	20,400	**20,400**	0	0	20,500	**20,500**	0
WORLD TOTAL	**182,950**	**1,223,255**	**1,406,205**	**67,700**	**67,700**	**1,311,614**	**1,379,314**	**76,200**
ESTIMATED WORLD CONSUMPTION (Supply-End. Stock)				**1,338,505**				

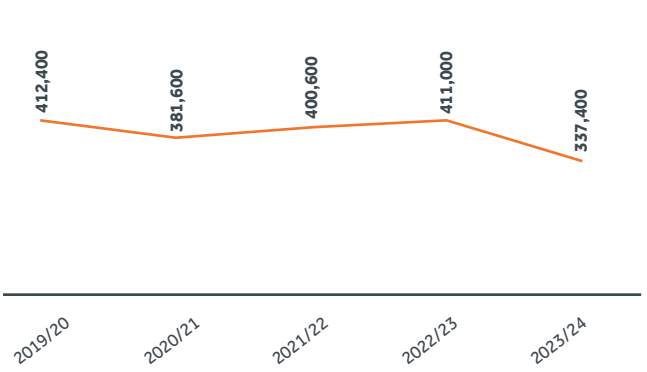
Sources: Aegean Exporters Association, Iran Dried Fruit Exporters Association, Raisins South Africa, Greek Nuts & Fruits Trade Association, Dried Fruits Australia and other INC sources. Season 2023/24 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres, except South Africa where 2023/24 refers to the 2024 harvest and 2024/25 to the 2025 harvest.

Special Report:

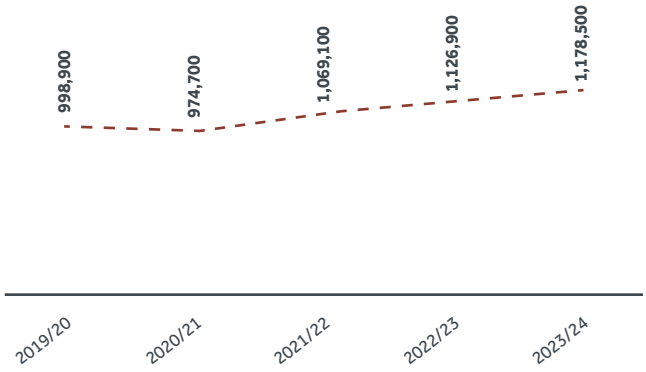
Turkish Dried Apricot, Fig and Grape Exports

Source: Aegean Exporters' Association Weekly Export Reports

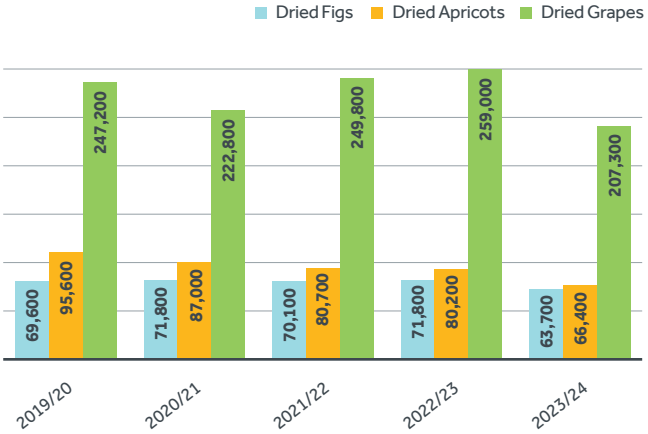
Turkish Dried Fruit Exports, Total Volume (MT)



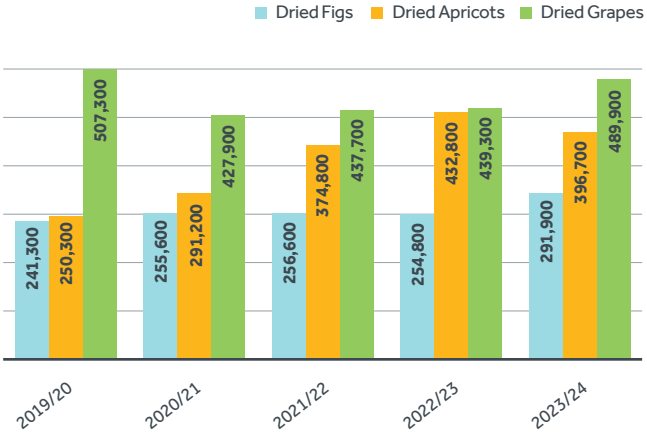
Turkish Dried Fruit Exports, Total Value (1,000 US$)



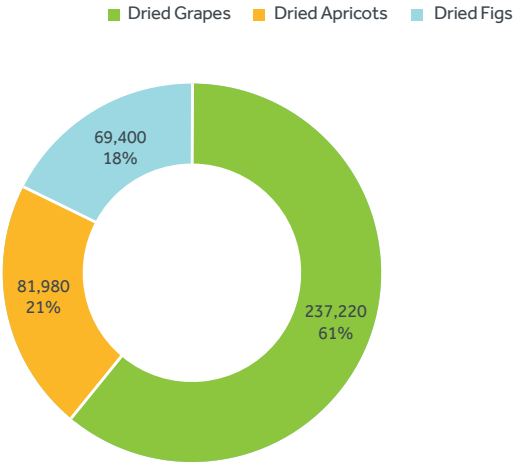
Turkish Dried Fruit Exports, by Product (MT)



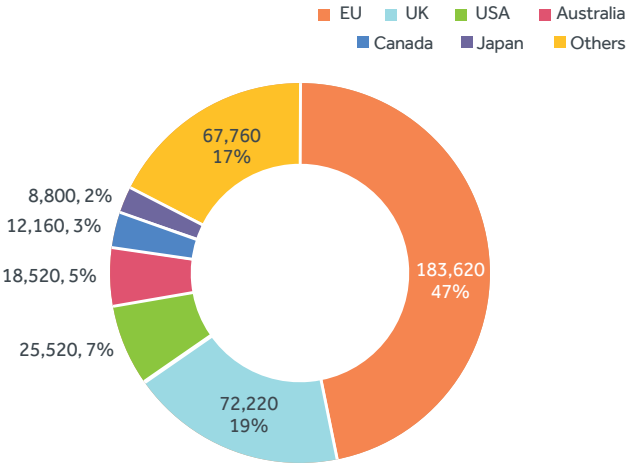
Turkish Dried Fruit Exports, by Product (1,000 US$)



Market Share by Product (MT, 5-Year Average, 2019/20-2023/24)



Market Share by Destination (MT, 5-Year Average, 2019/20-2023/24)

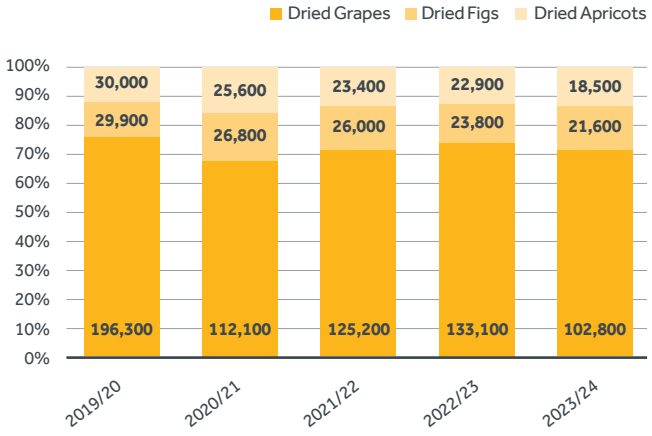


Special Report:

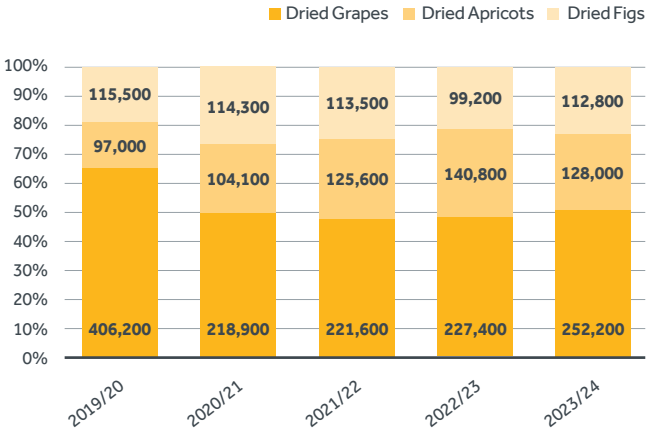
Turkish Dried Apricot, Fig and Grape Exports

Source: Aegean Exporters' Association Weekly Export Reports

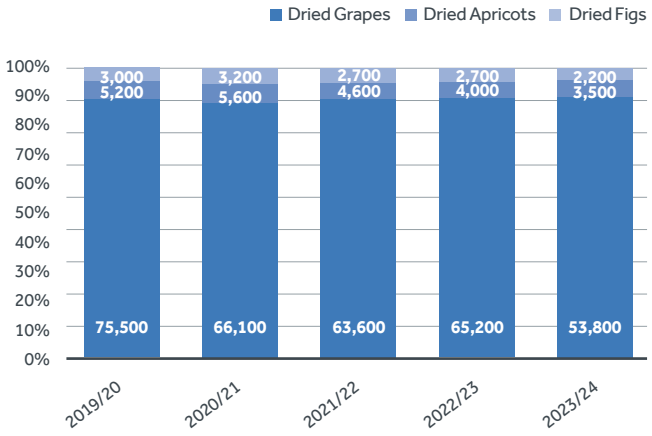
EU Imports from Türkiye: Market Share by Product Volume (MT)



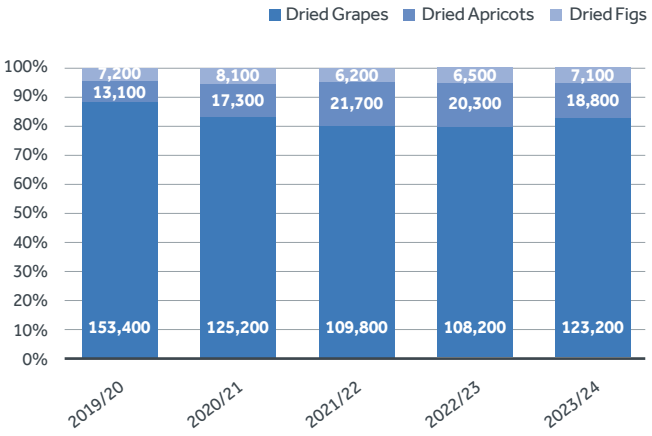
EU Imports from Türkiye: Market Share by Product Value (1,000 US$)



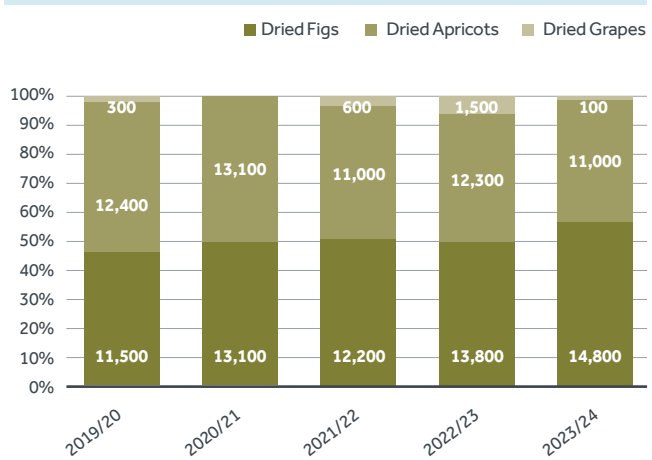
UK Imports from Türkiye: Market Share by Product Volume (MT)



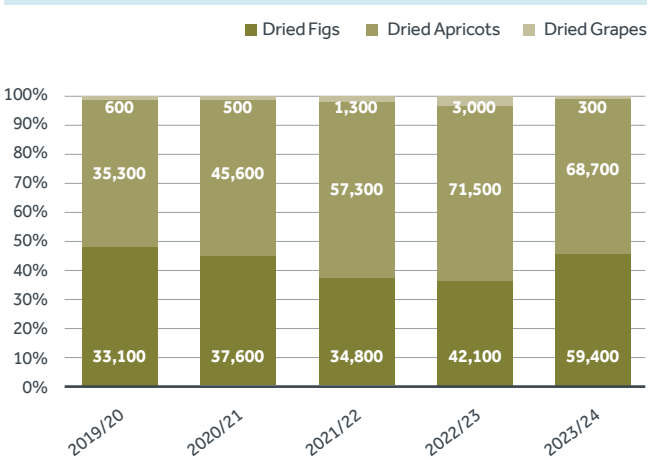
UK Imports from Türkiye: Market Share by Product Value (1,000 US$)



USA Imports from Türkiye: Market Share by Product Volume (MT)



USA Imports from Türkiye: Market Share by Product Value (1,000 US$)



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Chilean Walnuts: 2024 Market Update and Report on Activities

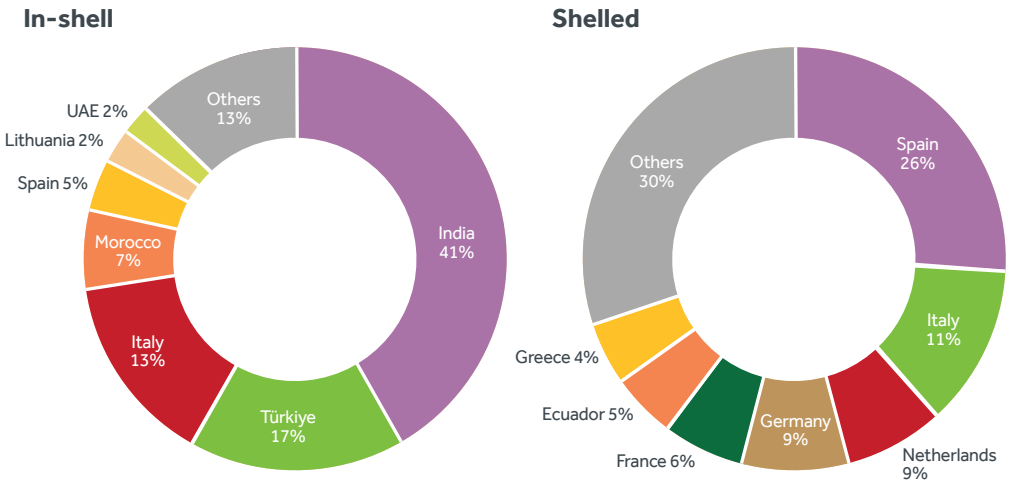
Commitments and sales of Chilean walnuts are on par with the previous season. Chilenut's activities this year include organizing various activities to support walnut growers and participating in Chile Summit India 2024 in Mumbai.

2024/25 Season Update

As previously reported, Chile's crop fell by 26% from 181,648 metric tons in 2023/24 to 134,576 MT in 2024/25. This drop is also evident in year-to-date exports (March 21 – August 31), which had seen a 24% drop, with 83,806 MT shipped compared to 110,209 MT at the same time last year. Commitments and sales are progressing at a similar pace to last season. At the time of this report, 63% of the total harvest had been shipped, compared with 62% in the 2023/24 season; as of September 15, 90% of the 2024/25 crop had been committed, compared with 87% in 2023/24.

India, Spain, Italy, Türkiye and Germany are the top destination markets for Chilean walnuts. In the case of in-shell walnuts, India, Türkiye and Italy are at the top of the list, accounting for 41%, 17% and 13% of exports, respectively. As for shelled walnuts, the top countries are Spain, Italy and the Netherlands, representing 26%, 11% and 9% of international shipments, respectively.[1]

Share of Chilean Walnut Exports by Country, Year-to-Date March 21–August 31, 2024[1]



Chilenut Activities

Over the course of 2024, Chilenut has organized various activities to support walnut farmers, in collaboration with advisors and experts specialized in different aspects of walnut production, such as pruning, irrigation and nutrition. The association has held field days and meetings with growers to support technical development and enhance the productive capacity of Chile's walnut orchards.

Chilenut also participated and played a prominent role in Chile Summit India 2024, held in Mumbai from August 27-30. Organized with the goal of strengthening economic ties and exploring new business opportunities between Chile and India, the summit provided an outstanding platform for showcasing the potential of Chilean walnuts. The event also provided an excellent opportunity to highlight the importance of a possible tariff reduction for the Chilean walnut industry.

1. Source: Official records of the Agriculture and Livestock Service of Chile (SAG), gathered by the Chilean Fruit Exporters Association (ASOEX).

Pistachios May Improve Gut Bacteria in Prediabetic Adults

AMERICAN PISTACHIO GROWERS

Pistachios continue to be a nutritional powerhouse, this time with gut health. Recent research shows that pistachios may improve gut health by promoting beneficial bacteria in prediabetic adults.

Gut health remains an important focus in nutrition science, with growing evidence linking our gut microbiota to overall health and disease prevention. As researchers keep exploring foods that support a healthy gut, pistachios have emerged as a promising option. As they are high in fiber and healthy monounsaturated fats and contain bioactive compounds, pistachios may play a unique role in modulating the gut microbiota.

A recent 12-week randomized crossover trial found that adults with prediabetes who consumed two servings a day of roasted, unsalted pistachios had enhanced butyrate-producing bacteria compared to those who ate a carbohydrate-rich food as a nighttime snack.[1] Butyrate-producing bacteria have been shown to help to foster beneficial bacteria in the gut while suppressing harmful bacteria and have been linked to reduced inflammation.[2] These promising results show how pistachios can support digestive and metabolic health in prediabetic individuals.

"Growing evidence links pistachios to healthy gut microbiota."

Although the exact mechanism by which pistachios benefit gut health is still being researched, their fiber content is known to play a key role in supporting the microbiota. Additionally, pistachios contain antioxidants, which could be beneficial for reducing inflammation in the gut, further improving gut health. Research also suggests that the healthy fats found in pistachios can positively influence the gut microbiota.[3] While more studies are needed to fully understand these effects, it's clear that pistachios are packed with beneficial nutrients.

As research around this topic continues to grow, it highlights the significant role pistachios can play in supporting gut health, especially for individuals with prediabetes. And scientific evidence keeps showing that incorporating pistachios as a regular part of a balanced diet offers an encouraging approach to supporting overall health.

Photo: American Pistachio Growers.

1. Riley, T. M., et al. (2024). The Effect of Nighttime Pistachio Intake on Stool Microbiota of Individuals With Prediabetes: A 12-Week Randomized Crossover Trial. *Current Developments in Nutrition*, 8. **2.** Hodgkinson, K., et al. (2023). Butyrate's role in human health and the current progress towards its clinical application to treat gastrointestinal disease. *Clinical Nutrition (Edinburgh, Scotland)*, 42(2), 61–75. **3.** Alcock, J., & Lin, H. C. (2015). Fatty acids from diet and microbiota regulate energy metabolism. *F1000Research*, 4(F1000 Faculty Rev), 738.

For more information on the research behind the health benefits of pistachios plus recipes to inspire your tastebuds, visit www.americanpistachios.org.

California Prune Board Advances Study of Prunes in Younger Population

Photo courtesy of Paprika Studios on behalf of the California Prune Board.

New research suggests eating prunes daily may reduce negative bone effects of oral contraceptives among 18- to 25-year-old women.

Research published in *Current Developments in Nutrition*,[1] an American Society for Nutrition publication, suggests eating prunes daily may reduce negative bone effects of oral contraceptives in younger women. In addition to findings among postmenopausal women and men, this new study funded by the California Prune Board (CPB) builds on a growing body of evidence spanning two decades and rounds out the "prune effect" on bone health to include younger women with increased risk for bone loss.

> *"What's most compelling about this research is the focus on a younger audience."*

The recently published study shows that eating about a serving of prunes daily for a year may be a safe and inexpensive solution to reduce the risk of bone loss associated with oral contraception use. The research also suggests the prune effect appears to target a specific bone area most prone to fracture.

Specifically, findings show that bone mineral density at the ultradistal radius increased significantly among women taking oral contraceptives plus 50 grams of prunes daily over 12 months. The ultradistal radius is an area especially rich in trabecular bone, which is not solid but is full of holes connected by thin rods and plates of bone tissue.

"Trabecular bone is particularly important for bone health, since skeletal sites with more trabecular bone are those that are most prone to fracture due to osteoporosis," said Dr. Shirin Hooshmand, PhD, RD, of San Diego State University, the primary investigator on the study.

While the reasons for the prune effect aren't completely understood, research suggests that the effects of prunes occur primarily through inhibition of bone resorption by reducing the activity of osteoclasts, a type of bone cell that breaks down bone tissue.

"As a nutrient-rich fruit, prunes have a combination of minerals, vitamin K, phenolic compounds and fiber that is unique among foods and is important for bone integrity," Hooshmand said.

CPB Executive Director Donn Zea added: "What's most compelling about this research is the focus on a younger audience. We've known for some time that prunes can benefit men and older women, but now this research takes an exciting step towards the other end of the age spectrum."

As global consumers increasingly prioritize healthier lifestyles, the CPB is at the forefront of the prune industry, driving nutrition research that highlights the powerful health benefits of prunes in supporting optimal body function and mitigating potential health risks.

For more information about this study, visit: https://californiaprunes.org/news/press-releases/.

1. DeMasi, T., et al. (2024). Prunes may blunt adverse effects of oral contraceptives on bone health in young adult women: a randomized clinical trial. *Current Developments in Nutrition*, 8(9), 104417.

Raisin Symposium Provides the Platform to Take South African Production to the Next Level

As South African raisin production gathers pace, industry body Raisins South Africa has been bringing together farmers and academics to hear how the latest science can combine with long-established techniques to turbocharge the sector and propel it into the big leagues of international supply.

The theme of "Innovation at Farm Level" was the focus of the South African raisin industry's third annual symposium. Taking place on August 29-30 at the groundbreaking Vine Academy and Model Farm in Kakamas, Northern Cape, the event showcased cutting-edge technologies aimed at boosting the quality and productivity of raisin manufacturing in the country. The developments were put in the context of an industry that has fine-tuned its production methods over many decades and is fast becoming one of the leading exporters of the dried fruit globally.

South African raisin production is forecast to surpass 100,000 metric tons for the first time this year, thanks to a significant increase in plantings and investment in new cultivars.

The symposium was organized by industry body Raisins South Africa and the latest edition was the first time it has taken place over two days. It was originally established in 2022 as a platform for researchers to update the industry on the progress of their studies and share information to take raisin production to the next level.

Some 150 farmers, bankers, input suppliers, academics and other industry professionals attended the event, where they heard presentations covering topics from the use of artificial intelligence and drones to precision farming and sustainability techniques. An interactive outdoor session also gave delegates the opportunity to see the real-world application of the latest science.

The Vine Academy and Model Farm was a fitting venue for the event given it is the stage for teaching current and next-generation farmers the most innovative and sustainable production techniques. "The goals of the event were perfectly aligned with the venue as the Vine Academy aims to give students practical exposure, and to disseminate information to all producers," explained Simoné Oliphant, Transformation Manager at Raisins South Africa. "Some of the trials being done on the Model Farm were also up for discussion at the symposium, and holding it where producers can physically go and see them was a huge step forward."

The symposium is part of Raisins South Africa's wider communications strategy, which aims to disseminate updates and advancements to the raisin farming community within the country. The event is designed both to give raisin producers the chance to hear directly from experts and academics, and to put their own questions to them.

The next symposium is scheduled for 2025 in the Western Cape.

> *"The goals of the event were perfectly aligned with the venue as the Vine Academy aims to give students practical exposure, and to disseminate information to all producers."*

Some 150 industry professionals attended the symposium.
Photo: Raisins South Africa.

The event included an interactive outdoor session.
Photo: Raisins South Africa.

Innova Report Indicates Almonds Are an Ideal Ingredient to Enhance Plant-Based and Better-For-You Snacks

Almonds can be a go-to ingredient for snack innovations that take plant-based to the next level and offer the best of both indulgence and health. A recent report on snacking trends explores how almonds meet growing consumer demand for plant-based, nutritious and indulgent snacks, positioning them as a leader in the snacking industry's latest innovations.

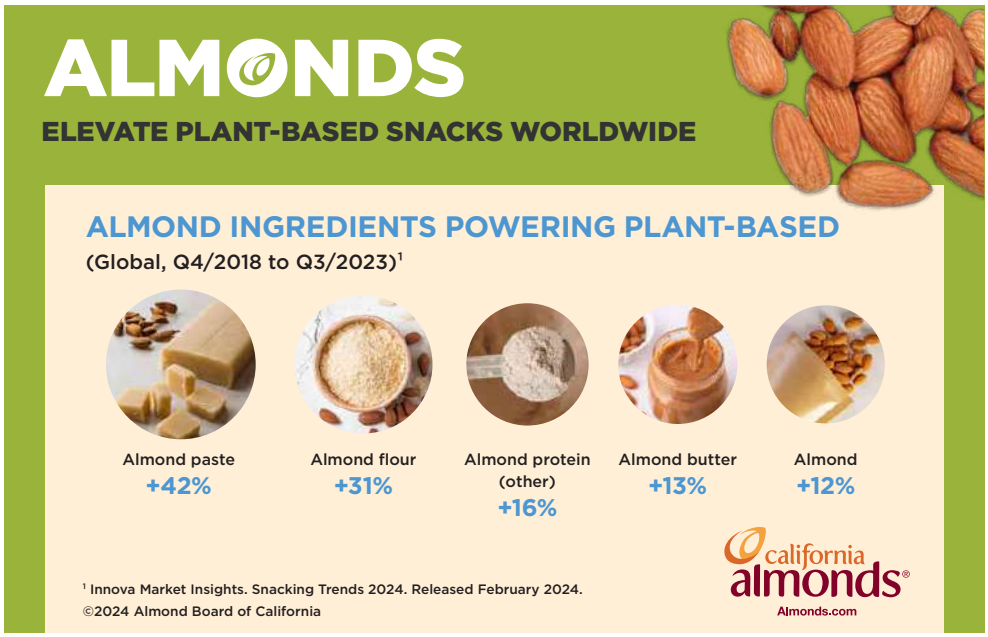


Image: Almond Board of California.

Balancing Indulgence and Health With Almonds

The Innova Market Insights report[1] on 2024 snacking trends emphasizes the rising demand for snacks that balance indulgence with health benefits, and almonds are positioned as a prime ingredient to meet these needs. According to the report, global consumers seek snacks that offer a balance of indulgence and health benefits: 50% report that they choose the healthier indulgent alternative versus 24% who report choosing the indulgent-only option, indicating a significant shift in snacking behavior toward better-for-you options.

Almonds' well-rounded nutrient package offers numerous health benefits, making them an ideal ingredient for healthier snack innovations. A handful of almonds includes 4 grams of fiber and 6 grams of protein for satiety and sustained energy, seven essential vitamins and nutrients, 13 grams of "good" unsaturated fats and 1 gram of saturated fat, and 50% of the US recommended daily value for vitamin E.

Innovating Plant-Based Snacks With Almonds

According to the Innova report, the compound annual growth rate (CAGR) between 2018 and 2023 was +13% for plant-based savory snacks and +15% for plant-based sweet snacks. Plant-based sweet and savory snacks with almonds saw the fastest growth in subcategories like chocolate, pastries and sweet goods, snack nuts and seeds, sweet biscuits and cookies, and snack mixes.

Eating healthier, bringing variety to diets and eating better for the environment are the top three reasons global consumers report considering 100% plant-based alternatives. California almonds are an ideal fit for these preferences given their nutrient profile, versatile forms and investment in climate solutions, zero waste and regenerative agricultural practices. Almond paste (+42%), almond flour (+31%), almond protein (+16%) and almond butter (+13%) are the fastest-growing almond ingredients in plant-based sweet and savory snacks.

"Almonds offer endless opportunities for texture and flavor in product development, and we've continued seeing products with almond ingredients grow over the past five years," says Harbinder Maan, Associate Director of Trade Marketing and Stewardship at the Almond Board of California. "Their well-rounded nutrition package and various forms make them an ideal ingredient for innovating in the plant-based snacking category to meet ever-changing consumer preferences."

1. Innova Market Insights. Snacking Trends 2024. Released February 2024.

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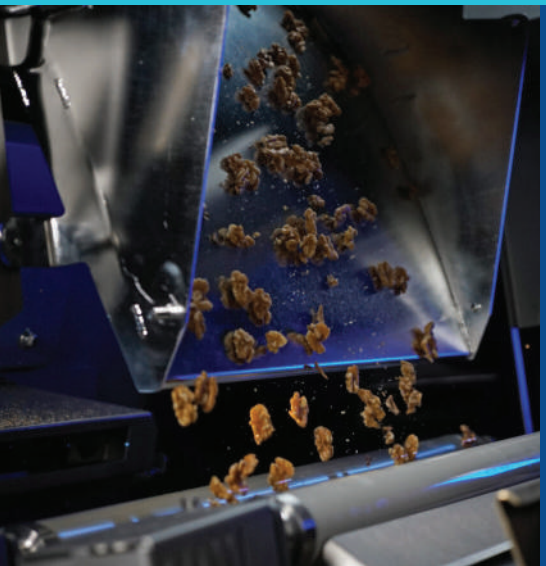

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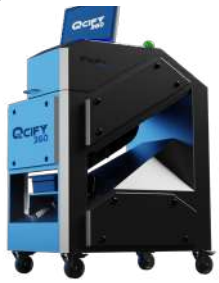

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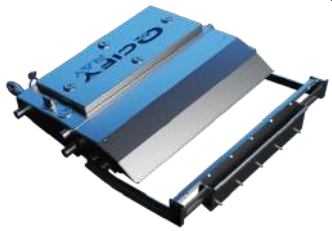

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