NUTFRUIT

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

Edition 92. N° 2 **July 2024**

INC XLI WORLD NUT AND DRIED FRUIT CONGRESS

1,200+ Company Owners, Presidents and CEOs Gather in Vancouver

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PLANTERS® Wins INC Golden Nut Award

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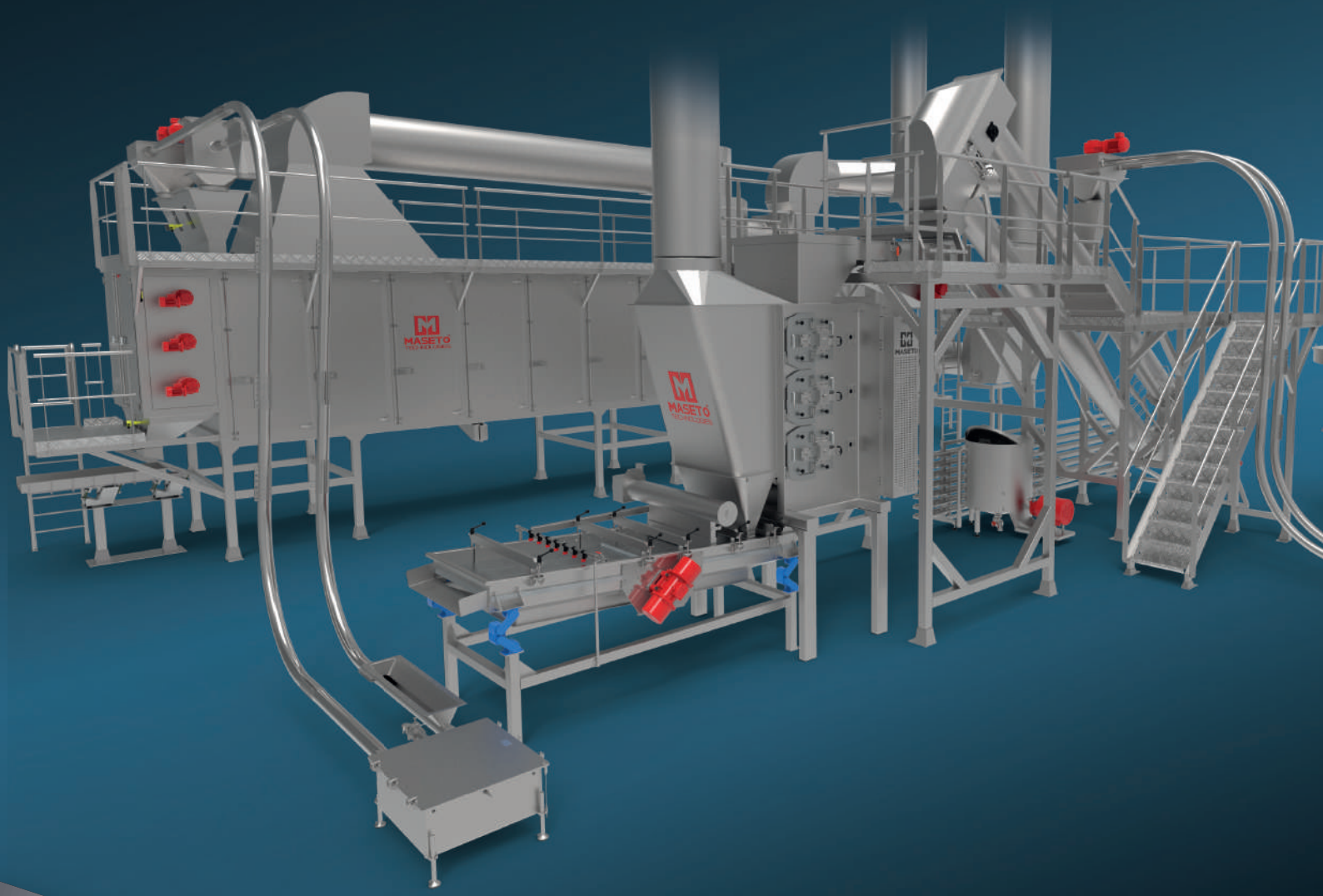

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THE VOICE OF THE INC FOUNDATION FOR THE NUT AND DRIED FRUIT WORLD

Edition 92. N°2 **July 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.

For all editorial and advertising enquiries, please contact the INC at:
communications@nutfruit.org

INC HEADQUARTERS

INC international Nut&DriedFruit

Carrer de la Fruita Seca, 4
Polígon Tecnoparc,
43204 Reus, Spain
Tel: +34 977 331 416
Email: inc@nutfruit.org
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Resilience and Readiness for New Challenges

MICHAEL WARING
INC CHAIRMAN

The 41st INC World Nut and Dried Fruit Congress, held from May 8-10, was a great success for all of industry and participants. More than 1,200 leaders from world-renowned companies gathered at the functional and picturesque Vancouver Convention Centre in one of the most beautiful cities of the world. Delegates joined to do business and share ideas about key challenges facing our industry. I am deeply grateful to Congress Co-chairs Stephen Meltzer and Ranjeet Wallia for hosting us all. I would like to congratulate and thank INC Executive Director Goretti Guasch and her team, for their tireless dedication to making this event a reality. As announced at the Gala Dinner, next year's INC Congress will take us to a jewel of an island in the Mediterranean Sea —Mallorca, Spain— with INC Honorary President and Co-founder Antonio Pont serving as Congress Chair.

As the nut and dried fruit world settles home after our time in Vancouver, I have been reflecting on some key themes that emerged from the event. Generally speaking, across most products and origins, industry oversupply for the past few seasons is beginning to be met by increased demand, giving way to more balance between supply and demand. However, our drive to increase consumption must continue and strategies followed through. The battle for efficiency to combat continued rising production costs, inflation and unpredictable weather and logistic conditions remain important challenges. As this year's keynote speakers pointed out, today's world is one of radical uncertainty —but also boundless opportunity. I am confident that our industry, with its trademark resilience, will continue to rise to meet the challenges. In this vein, and as Goretti explores in her article on page 9, the need to properly tailor our marketing strategies has never been greater.

As purveyors of healthy products, we understand the need to back our marketing efforts with rigorous science. This year's Nutrition Research Seminar underscored the importance of translating scientific evidence about the virtues of nuts and dried fruits into clinical practice and, ultimately, real-world dietary change in consumers —a message that dovetails perfectly with the industry's overarching goal of boosting consumption.

Sustainability, too, remains front of mind. This year's Sustainability Seminar featured an insightful conversation among the leaders of the INC sustainability, scientific and government affairs working groups. As the panelists made clear, we must be more forthright about sharing our sustainability story, given that we already have so much to be proud of.

Given the number and quality of sustainability-related initiatives currently proliferating across our industry, this year the INC decided to split the INC Sustainability Award into two categories —*Back to the Planet* and *Back to the People*— so as to recognize initiatives in both realms. With these new additions, the INC Awards celebrate the full spectrum of excellence across our industry, from gastronomy to innovation to nutrition research, and of course the industry's top honor, the Golden Nut Award, which this year the INC was proud to present to PLANTERS®.

The Board of Trustees and Executive Committee held fruitful and detailed meetings in Vancouver, reaching decisions that will mark the INC's course in the months ahead. The Board approved the 2023 end-of-year accounts, ratified the 2024 budget, was briefed on the status of various INC initiatives and was informed of activity within the various INC subcommittees. The Executive Committee appointed four new INC Ambassadors: George Ishiguro of the Blaxton Corporation in Japan, Lukasz Zurkowski of Foodwell in Poland, Khusrav Rajabov of Masterfood in Russia and Bandar Okrin of Al Jameel International in Saudi Arabia. We also discussed and planned our approach to the INC's country outreach program and activities going forward.

Looking ahead, the INC Multi-Country Dissemination Plan will notch a new milestone in late July with the launch of our new campaigns in Latin America. On the heels of our successful initiatives in China and India, these new campaigns mark the latest chapter in the INC's quest to spread our message of healthy goodness to every corner of the globe.

Kind regards,

Michael G. G. Waring

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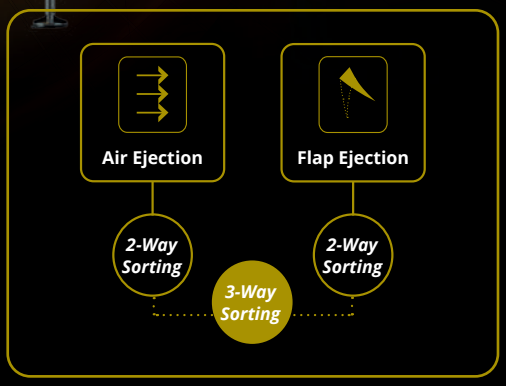

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Appealing to Gen Z's Appetite: Strategies to Target the Latin American Consumer

GORETTI GUASCH
INC EXECUTIVE DIRECTOR

During the INC Congress in Vancouver, I provided an overview of the global trends influencing our industry and shared key examples of how the INC has utilized data to shape our successful multi-country dissemination campaigns. I also offered key insights from our recent study in Latin America, a key market for growth in the nut and dried fruit sector. In this article, I aim to build on my presentation by delving deeper into specific insights derived from our study in Argentina, Brazil, Chile and Mexico, highlighting several key strategies for effectively targeting the growing Gen Z market in Latin America to boost consumption.

Highlight Health Benefits

Gen Z in Latin America is highly aware of how food impacts their health. Therefore, emphasizing nut and dried fruit health benefits in marketing campaigns can resonate with Gen Z's desire for healthy eating. From our study, we found that gut health, strengthening the immune system, and heart health were key priorities for Gen Z, so for instance, promoting the iron content in nuts for the immune system or the fiber content in dried fruits for digestive health can appeal to this demographic.

Emphasize Taste and Versatility

Taste is a primary driver for Gen Z when it comes to making food choices. Businesses should focus on showcasing the delicious flavors and versatility of nuts and dried fruits. This can be achieved through creative recipes, appealing packaging and, of course, innovative products. Thus, sharing ways to incorporate nuts and dried fruits into trendy, easy-to-make recipes, such as smoothies or snacks, can easily boost their appeal. Highlighting their use in various Latin American cuisines can also make them more attractive.

Leverage Digital Platforms

As true digital natives, Gen Z relies heavily on social media and online platforms for information. Businesses should leverage these channels to educate this demographic about the benefits of nuts and dried fruits. Platforms like YouTube, TikTok and Instagram, where Gen Z spends a significant amount of time, can be used to share engaging content, such as recipe videos and health tips.

Provide Clear Information

Lack of information on the benefits of nuts and dried fruits was also mentioned as a consumption barrier for Gen Z. Providing clear, easily accessible information about the nutritional benefits, origins, and uses of nuts and dried fruits can help bridge this gap. Content such as quizzes or infographics can make learning about these benefits more engaging. With Gen Z also turning to influencers, nutritionists and health experts when looking for information on nuts and dried fruits, these channels can also be key in helping to spread the message.

Innovate With Product Formats

Offering nuts and dried fruits in convenient, on-the-go formats can cater to the snacking habits of Gen Z, widely considered the snacking generation. Formats such as single-serve packs, trail mixes and energy bars with nuts and dried fruits can help appeal to Gen Z's appetite for quick and healthy snacks. New flavors and combinations can also attract Gen Z. Plus, given that a large percentage of Gen Z in Latin America snacks between meals, positioning these products as ideal snack options may help boost their consumption.

Country-Specific Targeting

Generation Z comprises 160 million people in Latin America, or 25% of the total population. Therefore, their purchasing power and influence on family decisions make them an essential target. However, country-specific targeting is essential due to the region's diverse cultural, economic and linguistic differences. While Spanish is widely spoken, significant dialectal variations exist, and Brazil speaks Portuguese, necessitating distinct marketing materials. Plus, with each country having its unique cultural nuances, traditions, holidays and consumer behaviors, marketing strategies need to be adapted to reflect these differences.

On that note, I'm excited to announce the launch of our multi-country dissemination campaign this July, spanning Argentina, Brazil, Chile and Mexico. Our campaign integrates all the aforementioned strategies to maximize impact across these diverse markets. Each country's unique cultural, social and economic contexts have been considered, allowing us to craft and deliver content specifically tailored to resonate with local audiences, yet still embodying a unified approach. I invite you to read more about the campaign in this issue of *Nutfruit*.

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Blue Diamond Announces New Japan Partner Kagome for Almond Breeze

On April 8, 2024, Blue Diamond Growers announced Kagome Co., Ltd. as its new Almond Breeze partner for all production and distribution in Japan. The new partnership will focus on accelerating market growth and driving new demand for almond drink products. New products through Kagome will be launched in September 2024. As health-conscious consumers look for more plant-based products and ingredients, the almond drink category in Japan continues to see year-over-year growth. The new partnership is intended to harness the qualities of Almond Breeze while leveraging the in-market expertise of Kagome to drive additional consumption within Japan.

"Both Blue Diamond and Kagome have a rich history rooted in strong values and a commitment to producing quality products for consumers," said Kai Bockmann, Blue Diamond President and CEO. "I look forward to our strong partnership that will create growth in Japan and ultimately support our 3,000 California almond growers."

After a rigorous evaluation process, Blue Diamond selected Kagome as its licensee partner. Like Blue Diamond, Kagome has been in the market for over 100 years with an integrated value chain from agriculture to production, processing and sales. Their processing and marketing capabilities and well-established distribution network within the Japanese market demonstrate Kagome's unique position to deliver results with Almond Breeze.

Borges to Focus on Industrial and Commercial Activities

Borges Agricultural & Industrial Nuts, S.A. (BAIN), the nuts business unit headed by Borges International Group (BIG), has reached an agreement with Natural Capital Fund, a fund managed by the specialized fund manager Climate Asset Management (CAM), for the sale of its agricultural division, a business that in the last three years has represented 7% of the product marketed by BAIN and 0.8% for the BIG Group as a whole. Specifically, the transaction entails the divestment of two Spanish companies, located in Extremadura and Granada, and four Portuguese companies, which concentrated their agricultural activity mainly in the production of almonds, walnuts and pistachios. With this strategic movement, BAIN transfers its agricultural business to centralize its efforts in the industrial and commercial areas that are the core business of BAIN and BIG, focusing on the pillars of innovation, sustainability and internationalization, as well as on the search for new business opportunities that increase value for its consumers, customers, employees, shareholders and for society as a whole.

American Pistachio Growers Hires Zachary Fraser as New President and CEO

American Pistachio Growers has hired sports-marketing leader Zachary Fraser as the organization's new President and CEO. Fraser joins APG after four years with Learfield, the influential media and technology company behind many of collegiate sports' most influential brands, where he led the company's Fresno State athletics property. "On behalf of the Board of Directors, we are very excited to welcome Zachary as the new president of American Pistachio Growers," commented APG Board Chair Richard Kreps. "We feel his successful track record as a leader in multiple industries, coupled with his passion, is just what APG needs at this time. After several years of working with Fraser in his capacity with his previous employer at our annual conference, we are very excited to have him lead our exceptional team in our time of significant growth in the pistachio industry."

New Cashew Processing Facility in Sierra Leone to Employ 300 Women and Young People

On March 26, 2024, Ambassador Manuel Müller, Head of European Union Delegation to Sierra Leone, and Henry Musa Kpaka, the Sierra Leonean Minister of Agriculture and Food Security, inaugurated the Waterloo Women's Cashew Processing Factory in the country's Western Area Rural District. The event was attended by Sierra Leone's Minister of Planning and Economic Development, the director of Sierra Leone's National Authorizing Office and key stakeholders in the agricultural sector. According to Sierra Leone's National Authorizing Office, the factory has its origins in the EU-funded Boosting Agriculture and Food Security (BAFS) project, which enhances productivity and rural incomes through tree crop diversification, agroforestry, and support for trade and value addition. The implementing partners of the project, Solidaridad and Cotton Tree Foundation, constructed the facility to enable women cashew processors to transition to a cleaner, safer and more convenient processing environment. The factory is intended to provide employment and livelihoods for more than 300 local women and young people.

Wonderful Pistachios Partners With UAE-Based Al Douri Group for Pistachio-Processing Capabilities in the Middle East

In a deal intended to boost the regional availability and quality of premium pistachio nuts, Wonderful Pistachios has appointed Al Douri Group as its official processing partner in the Middle East. Established in 1979, the UAE-headquartered Al Douri Group emerged as a market leader in the food service industry within the region. The group operates a state-of-the-art, fully automated factory in Dubai, alongside an expansive portfolio of retail outlets. The partnership will result in shorter shipping lead times while improving product freshness and quality and expanding distribution. Michael Hohmann, Executive Vice President and Chief Financial Officer of Wonderful Pistachios, commented: "We are thrilled to join forces with Al Douri Group as the official processing partner for Wonderful Pistachios in the Middle East. The strategic location of the group will contribute significantly to our expansion plans in the region, underscoring Wonderful Pistachios as the nut of choice for consumers, and allowing us to develop customized products and packaging for our customers." Yaser Douri, Chief Manufacturing Officer at Al Douri Group, noted: "We are equally thrilled about our partnership with Wonderful Pistachios. Our robust local processing and distribution capabilities seamlessly complement this strategic collaboration, empowering us to elevate the freshness and quality of the products across the Middle East, for consumers."

Mirova Invests $8.5 Million in Sustainable Macadamia Production in Kenya and Tanzania

The French investment firm Mirova recently allocated US$8.5 million to invest in Pamoja, a Switzerland-based agricultural firm specialized in macadamia production in Kenya and Tanzania, as reported by *Nature News*, a Nigeria-based publication focused on sustainability and climate change. The investment is intended to bolster the sustainable production of macadamia nuts by providing financial support to Pamoja, which works with small-scale farmers to enhance the sustainability of macadamia farming operations. This partnership highlights a dedication to fostering eco-friendly farming methods while ensuring a sustainable income for small local producers.

Cashew Factory Inaugurated Under Ghana's "One District One Factory" Initiative

On March 13, 2024, a new cashew factory was inaugurated within the enclave of the Bui Dam in western Ghana. According to the Bui Power Authority (BPA), the body that operates the dam, the factory aims to boost industrialization and economic development within the enclave. The project, a collaborative effort between the BPA and Cashew-U Company Limited, is in line with the Ghanaian government's "One District One Factory" initiative, which seeks to establish at least one factory in each district of the country, thereby adding value to Ghanaian exports and stimulating economic development, while also reducing the country's import dependence.

Southern Roots Nut Company Plans Alabama Pecan Processing Facility, Creating 120 Jobs

Southern Roots Nut Company plans to open a pecan processing facility in Dothan, Alabama, according to an announcement by the state's governor, Kay Ivey. The New Mexico-based company will invest nearly US$16.6 million to outfit an existing building and construct a new facility as a hub to process, store and distribute raw pecans. As part of the growth project in Dothan, Southern Roots is committed to creating 120 jobs with an annual payroll exceeding US$4.1 million. The job creation is projected to take place over a two-year time frame. Southern Roots is a pecan grower and processor that specializes in delivering high-quality pecans and pecan products to customers worldwide. The company focuses on sustainable farming practices and advanced technology to ensure efficiency and quality in its operations. The company's products include shelled and unshelled pecans, flavored pecans, pecan oil and more.

ANDREA CARLSON

CHEF AT BURDOCK & CO
VANCOUVER, CANADA

Born and trained in British Columbia, Chef Andrea Carlson studied organic farming and landscape design before making her mark on some of the best restaurants in Vancouver. The close connection between food and nature is a foundation of her culinary philosophy, and she has become a driving force behind the city's locavore movement. As a Michelin-starred chef/owner at Burdock & Co, Andrea's love for the land surfaces in organic, seasonal plates influenced by British Columbia's diverse environments. Her signature style of cooking —delicate, earthy and vibrant— captures the essence of farm-to-table dining. Andrea was the winner of the 2024 INC Excellence in Gastronomy Award.

Burdock & Co offers what you call "modern Pacific Northwest cuisine." How would you describe the essence of this culinary style?

The oceans, forest and mountains influence our offerings —from sustainable local seafoods to foraged goods from the Cascadian mountain range.

For the past few years, Burdock & Co has offered what you call "Moon Menus" —a rotating series of thematic culinary offerings. Could you tell us about the inspiration behind this?

I am inspired by both subtle and vibrant botanical notes that spring to life under different seasons' moon cycles.

How would you describe the experience of dining at Burdock & Co? What's the vibe like in the dining room?

We have a unique vibe —nearly every front-of-house team member is a sommelier, everyone is deeply passionate about food and wine, and everyone's unique personality shines through as they share our collective vision of sustainability.

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

Drying fruit is a core preservation we use to preserve the harvest and keep fruit flavors evolving through menus all year long. Nuts are a staple for round and toasty flavour profiles as well as textural elements. We lean heavily on various nuts to create a "creamy" element in our vegan dishes.

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

I'm trying to help some friends buy a farm and am newly involved on a board for a social justice/urban agriculture organization, which is exciting work.

QUICK-FIRE ROUND!

What do you enjoy the most about being a chef?

It's a dynamic job —things are different every day and there are always new products coming through the door to inspire.

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

Any Persian dessert with pistachio, rose and saffron. Or a sour cherry panettone.

What is the next big culinary trend?

No idea!

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

Cashew, almond, pistachio — always. Medjool dates.

Braised Burdock Stuffed Morel With Fermented Pine Nut

Pine nut cream:

- 300 g pine nut
- 300 g cashew nut, soaked in 2 liters of water overnight in refrigerator

Drain and puree with 850 g hot water. Add 2 probiotic capsules, cover and ferment at room temperature overnight. Season with salt.

Morel stuffing:

- 100 g lightly grilled, well-washed leek tops, chopped
- 145 g button mushrooms, sliced
- 80 g chopped braised burdock
- 50 g pickled garlic
- Morel trim

Sweat all and add to:

- 230 g soft tofu, blended in Robot Coupe with
  - 1 tbsp nutritional yeast
  - 2 tbsp finely chopped pine needles
  - Salt

Blend all until you obtain a coarse but pipeable paste.

Toasted pine nuts:

- 2 tbsp olive oil
- 75 g pine nuts

Toast pine nuts in oil over very, very low heat. DO NOT BURN! Remove nuts and add to filling mix. Reserve oil for lichen.

Fill 4 morel mushrooms (33 g) with 4 g filling each. Oil, season and grill.

Place grilled morel mushrooms atop warm fermented pine nut purée. Garnish with wood sorrel, cress, lichen and shallot pickle.

Photo: Hakan Burcuoglu.

Sustainability

AUSTRALIA: Revised Dietary Guidelines to Incorporate Sustainability

The Dietary Guidelines Expert Committee of Australia's National Health and Medical Research Council (NHMRC) has identified sustainable diets —accessible, affordable and equitable with low environmental impacts— as a high priority for inclusion in the next edition of the country's official dietary guidelines, slated for publication in 2026.

CHINA: Draft Corporate Sustainability Disclosure Standards

On May 27, 2024, the Chinese Ministry of Finance began soliciting opinions on draft guidelines aimed at unifying corporate sustainability disclosures, with a view to establishing a nationwide standard by 2030, according to China's State Council Information Office. The draft guidelines set general requirements for corporate sustainability information disclosures and apply to companies established in China that are required to disclose such information. Implementation of the basic standards will gradually extend from listed to non-listed companies and from voluntary to mandatory disclosures.

EU: Corporate Sustainability Due Diligence Directive Clears Final Hurdle

The European Parliament voted to approve the compromise text of the Corporate Sustainability Due Diligence Directive on April 24, 2024, and the Council formally adopted the directive exactly one month later. This directive will apply to companies of more than 1,000 employees with a turnover of more than €450 million, affecting activities ranging from the upstream production of goods to the downstream distribution, transport and storage of products. Companies affected by the legislation will have to implement a risk-based system to monitor, prevent or remedy human rights or environmental damages identified by the directive.

After being signed by the President of the European Parliament and the President of the Council, the directive will be published in the *Official Journal of the European Union* and will enter into force on the twentieth day following its publication.

Member states will have two years to implement the regulations and administrative procedures to comply with this legal text. The directive will apply to companies of different sizes according to the following timeline:

- 3 years from the directive's entry into force for companies with more than 5,000 employees and €1,500 million turnover
- 4 years from the directive's entry into force for companies with more than 3,000 employees and €900 million turnover
- 5 years from the directive's entry into force for companies with more than 1,000 employees and €450 million turnover

EU: Parliament Approves Forced Labor Ban

On April 23, 2024, the European Parliament voted to approve the compromise text reached with the Council concerning the prohibition of products made with forced labor on the Union market. The text must now receive final formal approval from the Council and be published in the *Official Journal of the European Union*. Member states will have to start applying the new rules in three years.

EU: Parliament Approves Packaging and Packaging Waste Regulation

On April 24, 2024, the European Parliament voted to approve the compromise text agreed with the Council on the Packaging and Packaging Waste Regulation. The new rules envisage packaging reduction targets (5% by 2030, 10% by 2035 and 15% by 2040) and the prohibition of certain single-use plastic packaging types as of January 1, 2030. The Council must now formally approve the agreement before it can enter into force.

GHANA: Swiss Government Grant to Boost Cashew Sector

The Swiss State Secretariat for Economic Affairs (SECO) has announced a US$10.5 million grant for the cashew and oil palm sectors under the umbrella of a five-year project known as the Ghana Private Sector Competitiveness Program Phase II. As reported by the Ghanaian news outlet *Business and Financial Times*, the grant aims to achieve 20% domestic processing of cashew and oil palm over the project's duration.

Trade & Marketing Standards

CHINA: Guatemalan Macadamia Shipments Denied Entry at Border

At least seven containers of Guatemalan macadamia nuts were denied entry into China in May 2024, according to a Reuters report. According to a readout published by Guatemala's Ministry of Economy, Chinese and Guatemalan delegations met at the World Trade Organization in early June. The Chinese delegation assured their Guatemalan counterparts that they would consult with the Chinese authorities to determine the reason for the rejections.

EU: Council Sets Higher Tariffs on Russian and Belarusian Peanuts

On May 30, 2024, the Council adopted a regulation that aims to levy prohibitive tariffs on grain products imported from Russia and Belarus. The regulation increases duties on cereals, oilseeds and derived products —including peanuts— from Russia and Belarus to a point that will in practice halt imports of these products. The measures entered into force on July 1, 2024.

TÜRKIYE: Ban on Trade with Israel Due to Regional Conflict

On May 2, 2024, Türkiye announced that it was suspending all exports and imports to and from Israel, citing the worsening humanitarian tragedy in the Palestinian territories, as reported by Reuters.

UK: Tariffs on Raw Almonds Suspended

The UK government has suspended tariffs on raw kernel and in-shell almonds from all origins. The suspension came into effect on April 11, 2024 and will remain in place until June 30, 2026. Tariffs of 4% on in-shell almonds and 2% on raw kernels had previously been in place since the UK's departure from the European Union in 2021.

USA: California Walnut Commission Awarded US$7 Million in USDA Funding for Export Promotion

The California Walnut Commission has been awarded US$7 million in funding as part of the Regional Agricultural Promotion Program (RAPP), a program of the U.S. Department of Agriculture's Foreign Agricultural Service, to expand distribution and sales of California walnuts in international markets.

USA: USDA Publishes New Grade Standards for In-shell and Shelled Pecans

The USDA has published a final rule revising the U.S. Standards for grades of in-shell and shelled pecans. This is the first major revision to the standards since their initial publication in 1969. The new rule replaces the current grades with U.S. Extra Fancy, U.S. Fancy, U.S. Choice and U.S. Standard grades. It establishes rules on size classification, kernel color classification, tolerances for variation and defects, and samples for grade or size determination. It also updates the definitions of various terms and establishes methods for the application of the standards. The final rule becomes effective on July 26, 2024.

Food Safety

CODEX ALIMENTARIUS: 17th Session of the Codex Committee on Contaminants in Foods

The 17th Session of the Codex Committee on Contaminants in Foods (CCCF17) took place in Panama City from April 15-19, 2024. Among other agenda items, the Committee discussed a definition of ready-to-eat peanuts proposed by an India-led Electronic Working Group in which the INC participated alongside representatives of 22 countries and FoodDrinkEurope. The Committee agreed to apply the existing definition for ready-to-eat (RTE) tree nuts in the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995) to RTE peanuts, and to establish an Electronic Working Group, chaired by India and co-chaired by the United States, to develop the maximum level for aflatoxins in RTE peanuts and the associated sampling plan for comments and consideration by CCCF18.

In addition, the Committee discussed a proposal submitted by a Brazil-led Electronic Working Group, in which the INC also participates, to undertake the revision of the *Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Peanuts* (CXC 55-2004). The Committee agreed to establish an Electronic Working Group, chaired by Brazil and co-chaired by India, to prepare a proposed revision of the Code for comments and consideration by CCCF18.

CHINA: National Food Safety Usage Standard for Food Additives

On March 12, 2024, China released the National Food Safety Usage Standard for Food Additives (GB2760-2024), which will enter into force on February 8, 2025, replacing the current standard GB2760-2014. A USDA GAIN report published on May 6 provides an unofficial translation of the updated standard.

EU: Official Controls Update

Implementing Regulation (EU) 2024/1662 modifies the frequency of official controls on certain nuts and dried fruits from certain third countries, as detailed in the News section of the INC website. This Regulation entered into force on July 2, 2024. Relatedly, the EU has published a draft Implementing Regulation laying down analytical methods applicable to official controls performed for the verification of compliance of food business operators with Regulation (EC) No 2073/2005.

EU: Commission Drafting New MLs for SO_2

According to FRUCOM, the European Commission is currently drafting new maximum levels for sulphur dioxide as a food additive and aims to conclude discussions on the new draft limits by September. After this, the European Food Safety Authority (EFSA) will start reviewing new intake assessments with the new draft levels.

EU: Commission Adopts MLs of Nickel in Nuts

In February 2024, the Standing Committee on Plants, Animals, Food and Feed Section Novel Food and Toxicological Safety voted in favor of a draft Commission Regulation regarding maximum levels of 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 Regulation was notified to the WTO and a commenting period ended in May 2024. The Regulation is expected to be published by July 2024 and will apply from July 1, 2025.

In March 2024, the European Commission published Recommendation (EU) 2024/907 on the monitoring of nickel in food. On the basis of occurrence data collected between 2016 and 2018, the European Food Safety Authority (EFSA) published an updated risk assessment in 2020 and a tolerable daily intake (TDI) of 13 µg/kg bw was established. However, the Commission concluded that, for some foods, insufficient occurrence data were available to determine the appropriate maximum levels. The Commission therefore recommended that Member States, in collaboration with food business operators, should monitor the presence of nickel in food during the years 2025, 2026 and 2027. The monitoring should include nuts and nut spreads, among other foods. According to the Recommendation, Member States should also, where needed, gather knowledge on mitigation measures for the reduction of nickel levels in food and ensure that known mitigation methods are effectively communicated and promoted to farmers and food business operators. Member States and food business operators were also asked to provide the monitoring data to the EFSA on a regular basis for compilation into a single database.

Relatedly, in April 2024, the Commission published Implementing Regulation (EU) 2024/1045 amending Regulation (EC) No 333/2007 as regards the methods of sampling and analysis for the control of levels of nickel in foodstuffs and amending certain references.

Marketing Orders

USA: Amendments to the Marketing Order on Almonds Grown in California

The U.S. Department of Agriculture (USDA) Agricultural Marketing Service has issued a final rule amending Marketing Order No. 981, which regulates the handling of almonds grown in California. This rule modifies the definition of almonds and shelled almonds, establishes a definition for "almond biomass," and changes the dates when the Almond Board of California conducts elections to coincide with assessment collections and when the Board submits volume regulation recommendations to USDA. The amendments modify certain marketing order provisions with the intention of facilitating orderly administration of the program and modernizing, simplifying or aligning language with current industry practices and definitions.

USA: Assessment Rate Decreased for Hazelnuts Grown in Oregon and Washington

A rule issued by the USDA implements a recommendation from the Hazelnut Marketing Board to decrease the assessment rate established for the 2023–2024 marketing year and subsequent marketing years. This rule decreases the assessment rate from US$0.006 per pound to US$0.005 per pound for the 2023–2024 marketing year and subsequent marketing years. The rule took effect on April 5, 2024, and will remain in effect indefinitely unless modified, suspended or terminated.

Unlocking the Potential of West African Cashews: Challenges and Strategies for a Thriving Future

West Africa, a burgeoning hub in the global cashew industry, is making significant strides despite facing numerous challenges. As the region processes a growing share of its raw cashew nuts (RCN), addressing both buyers' and sellers' concerns becomes essential to ensure sustainable growth.

KRISHANU CHAKRAVARTY
CHIEF OF PARTY, PROSPER CASHEW, WEST AFRICA

Prosper Cashew, a project funded by the U.S. Department of Agriculture (USDA) and implemented by the international nonprofit TechnoServe, acts as a catalyst for the West African cashew sector. Mr. Chakravarty leads the formulation and execution of Prosper Cashew's vision and strategy.

West Africa has become a major player in the cashew industry, producing over 45% of the world's RCN in 2020. However, only 8% of this production was processed locally at that time, a figure that has since increased to 25%. This rapid growth in local processing is a testament to the region's potential, but the industry is still in its infancy and faces significant hurdles. The shift from exporting raw nuts to adding value through local processing is a positive development, but much more needs to be done to realize the full potential of West African cashews.

Photo: Prosper Cashew Project, TechnoServe.

Challenges From the Buyers' Standpoint

Buyers in North America and Europe, the second and third largest consumers of cashew kernels after India, are increasingly looking towards Africa as a viable source for kernels. However, several challenges need to be addressed to facilitate the shift:

1. **Consistent quality:** Buyers demand a consistent quality of cashew kernels, which can be a challenge given the variability in processing capabilities across different West African countries. The lack of standardized processing practices often leads to inconsistencies in the final product, making it difficult for buyers to rely on a consistent supply from the region.
2. **Timely delivery:** Ensuring timely delivery is another critical factor for buyers. The logistical challenges in West Africa, including poor infrastructure and port congestion, often result in delays. This can be a significant deterrent for buyers who are accustomed to the efficiency of established cashew processing regions like India and Vietnam.
3. **Adherence to food safety norms:** Compliance with international food safety standards is non-negotiable for buyers in developed markets. West African processors need to invest in modern processing facilities and adhere to strict food safety protocols to meet these norms.
4. **Zero counterparty default:** Buyers need assurance that their suppliers will meet contractual obligations without default. The limited historical performance data for West African processors means that buyers need to take calculated risks in this relatively uncharted territory.

Challenges From the Sellers' Standpoint

From the perspective of West African sellers, the challenges are equally daunting:

1. **Access to finance:** A significant challenge for West African processors is accessing finance. Unlike their Asian counterparts, who can purchase RCN

year-round, African processors need to buy their entire year's supply during the three-month harvest season. This creates a high working capital requirement, which is further exacerbated by the high borrowing costs and difficulties in securing loans in Africa.

2. **Processing costs:** The processing industry in West Africa is still developing, and technical and managerial capacities are not yet on par with those in Asia. This results in higher processing costs, making it difficult for African processors to compete on price with established players from Vietnam and India.
3. **Marketing challenges:** African cashew kernels have not yet established a strong market position. Effective marketing strategies are needed to highlight the unique selling proposition of African cashew, such as freshness and sustainability.

Strategies to Address the Challenges

To address the challenges, a multi-faceted approach is required:

1. **Improving access to finance:** Innovative financial solutions are needed to help processors manage their cash flow better. Governments and financial institutions can play a crucial role by providing low-interest loans and other financial instruments tailored to the needs of the cashew industry.
2. **Investing in technical and managerial skill development:** Building technical and managerial capabilities for reducing processing costs and enhancing quality standards can go a long way in building customer confidence.
3. **Developing a strong marketing strategy:** A robust marketing strategy is critical for differentiating African cashew kernels in the global market. Marketing campaigns should emphasize the environmental benefits of locally processed cashews, such as lower carbon footprint. Additionally, promoting the socioeconomic benefits of supporting African cashew processors can resonate with socially conscious consumers.

> *"The shift from exporting raw nuts to adding value through local processing is a positive development."*

Consumer Trends and the Role of Marketing

With the rise of new lifestyle trends towards holistic well-being and plant-based diets, nuts and dried fruits have gained popularity as convenient, nutritious snacks. However, when we look across the nut and dried fruit industry, we realize the lack of focus on marketing cashews. Studies show that the nut industry spends about US$1 billion per annum on marketing, but cashew rarely features in any of these campaigns.

This lack of awareness is pronounced when it comes to cashew consumption. When consumers pick up a pack of cashew nuts at Costco, Aldi or any mom-and-pop store, do they think about where it comes from? Do they consider the impact their purchase could have on the lives of African farmers, or how cashews processed in Africa could help reduce the carbon footprint and play a role in combating climate change?

Consumer product awareness serves as the foundation of informed decision-making. Consumer research studies show that today, more than ever, the evaluation of snacking options extends beyond merely considering the price tag; it encompasses factors such as nutritional benefits, quality, environmental impacts and ethical considerations.

Conclusion

If healthy food leads to wellness, awareness of its source can be the path to goodness. Consumers want to support a supply chain where farmers make a decent living, their children go to schools and nature is protected for a better tomorrow. Africa is one such story to share.

The Almond Project: Ensuring Livelihoods for Generations to Come

Launched in 2021, The Almond Project began with the development of a five-year study in California's Central Valley, implementing and researching a variety of soil health practices. This project was the winner of the 2024 INC Excellence in Sustainability Award – Back to the Planet.

Intentional inclusion of animals such as sheep in cropping systems can improve soil biology and fertility, increase biodiversity, and help manage cover crop and weed growth through grazing. Photo: Treehouse California Almonds.

The Almond Project's founding members represent a rare coalition of cross-functional advocates, spanning from third-generation almond growers (Pacific Ag Management) and processors (Treehouse California Almonds) to pioneering food brands (Simple Mills, Daily Harvest and Cappello's) and non-profit conveners (White Buffalo Land Trust). The collective has since grown to include several additional partners and further programming.

This partnership was born out of a need to evolve the way orchards are farmed to prioritize soil health, enhance water use efficiency, preserve natural resources, enable ecosystem regeneration, protect farming communities and ensure the livelihood of nutritionally-rich almonds for generations to come. With stakeholders across the supply system working together pre-competitively, the project seeks to ascertain how the business of purchasing and selling almonds to customers can enable and support the on-farm sustainability shifts that are necessary for the long-term viability of growing almonds.

Healthy soil is key to the longevity of almond farming —but practical research is hard to come by. The Almond Project aims to identify approaches to almond farming that improve soil health, increase biodiversity and empower local farming communities. The project began in 2021 as a five-year soil health study in Kern County, California. In the study, 80 acres of conventionally managed almond orchards and 80 acres of organically managed almond orchards are testing the impact of various soil health practices:

- **Increased compost application:** The use of compost has been shown to increase soil organic matter, microbial activity in the soil and moisture retention. Manure compost from dairy cows was applied throughout all 160 acres to assist in increasing soil organic matter and moisture retention, and to develop microbial activity in the soil. The compost was spread in bands over the tree rows to increase nutrient concentration over root systems.

- **Multi-species cover crops:** Cover crops can help prevent erosion, increase soil organic matter, improve soil structure, create habitat for beneficial microorganisms and enhance water infiltration. Multi-species cover crop mixes, including legumes, grasses, brassicas and non-legume broadleaves, were designed in partnership with a technical assistance partner to aid in the development of soil structure, increase soil organic matter, enhance water efficacy and build microbe habitat. The seed mixes were developed with key goals in mind: fostering biodiversity on the conventional block and encouraging both biodiversity and nitrogen fixation on the organic block.

- **Animal integration:** Intentional inclusion of animals such as sheep in cropping systems can improve soil biology and fertility, increase biodiversity, and help manage cover crop and weed growth through grazing. Sheep (ewes and lambs) are being rotated through the 160 acres in an effort to graze cover crop and weed growth, contribute to soil fertility and increase biodiversity.

- **Input reduction:** Through the implementation of the aforementioned soil-health practices, the team is working to reduce the application of fertilizers, pesticides, herbicides and fungicides, with a view to improving farm economics and building ecosystem health.

> *"The Almond Project has set a new standard for how marketplace competitors can come together and work towards evolving the industry as a whole."*

Key outcomes of these practices are being measured across soil and ecosystem health, such as water holding capacity and infiltration, carbon sequestration and ecosystem biodiversity in comparison to neighboring baselines.

The impact of The Almond Project has already been significant in the almond industry. The project has set a new standard for how marketplace competitors can come together and work towards evolving the industry as a whole. The farm research is delivering key learnings about soil health practices and their effect on water infiltration and carbon sequestration. The work of The Almond Project has inspired additional industry efforts to invest in soil health, with major processors learning from the project's work and creating their own soil health commitments or programs.

In 2024, the coalition is growing in membership and the scope of its work is expanding into new areas:

- **Economic modeling and business models:** The aim of this work is to understand how it can be economically viable to sell almonds in the marketplace at a price point that is affordable for companies and customers and, at the same time, incentivizes land stewards to tend to soils, biodiversity, and water and carbon cycles at their highest forms of health. In essence, the aim is to figure out how business models can support the transition of on-farm practices to meet these greater ecological goals. The project will explore premiums, subsidies and long-term contracts, as well as new ideas beyond these traditional models.

- **Trialing certifications:** The Almond Project is researching all the possible verification and certification programs that can certify "regenerative almonds" or "climate-beneficial almonds." A few programs will be trialed to identify those which will best serve all stakeholders in the supply system —farms, processors, brands, retailers and customers.

- **Farm Practices Innovation Advisory Board:** A diverse group of almond farmers and technical assistance specialists is being assembled to create an advisory board that will meet regularly. The board will work together to creatively envision how almond growing can evolve with the goals of biodiversity, efficient water use, carbon sequestration, chemical reduction and soil health. It will produce a final report to explore what additional practices can be trialed in the future beyond cover crops, compost application, sheep grazing and input reduction.

- **Nutrient density testing:** The Almond Project is working with a lab at the University of California, Davis to compare the nutrient density of almonds in the soil health blocks to that of almonds in traditionally farmed blocks. Samples were taken from the 2023 harvest and will be taken from the 2026 harvest.

Looking further ahead, The Almond Project seeks to develop proof points to incentivize farmers and food companies to adopt practices that have the potential to regenerate California's working lands, contribute to balancing our climate crisis and enable the sustainability of farming in the Central Valley for future generations.

Healthy soil is key to the longevity of almond farming. Photo: Treehouse California Almonds.

For more information about The Almond Project, visit: www.thealmondproject.com

Beekeeping With Smallholder Cashew Farmers in Ghana

Beekeeping is an excellent practice to integrate into cashew production. Supporting honeybee colonies increases pollination and, consequently, farmer yields. Moreover, farmers can increase and diversify their incomes through the harvest and sale of hive products. This project, led by Red River Foods, was a finalist for the 2024 INC Excellence in Sustainability Award – Back to the People.

Photo: Red River Foods, Inc.

The project has introduced beekeeping to smallholder cashew farmers in the Brong-Ahafo region of Ghana. Through the support of Red River Foods and dedicated partners, a total of 70 cashew farmers have received equipment, training, ongoing support and monitoring. The equipment provided — beehives, bee suits, smokers, hive tools, brushes and a communal honey press— provides farmers with all the protective and functional tools they need to successfully attract, raise, nurture and protect honeybees.

Participants are elected through a democratic decision-making process among farmers in the communities. Of the 70 direct project beneficiaries, 23 are women. In these communities, beekeeping is often viewed as a male-centric activity; therefore, empowering women to take up the practice is extremely important.

The project was piloted with a group of 10 farmers, trained by a partner organization. In light of the enthusiasm expressed by all parties, the decision was made to scale and grow the project, with 30 new participants taking part during the second year.

Drawing on previous experience with beekeeping in Ghana, the decision was made to contract two local graduates of a master beekeeper program that Red River Foods had previously supported. These two young Ghanaians, Stephen Adu and Akwasi Amo, had been practicing beekeeping for many years and were excited to manage this new project. With support of the Red River Foods beekeeping team, they took the lead in providing training, coordinating equipment construction and supporting farmers through continual field monitoring.

The second evolution of the project came about as a result of Stephen and Akwasi's vision and passion for beekeeping. Because beekeeping can uplift underprivileged rural farmers to increase their crop yields and incomes, they argued, it should be accessible to all. It was therefore essential to engage with youth in the region to teach them this valuable skill.

The decision was made to directly support Stephen and Akwasi in creating a sustainable and productive beekeeping business. This support allowed the new business, Ghana Blossoms Beekeeping (GBB), to acquire a pick-up truck and a laptop computer, enabling Stephen and Akwasi to drastically increase the efficiency and reach of their monitoring efforts. In addition, this support allowed them to integrate 30 new cashew farmer trainees and provide them with 280 additional beehives. With the hives installed in the participants' orchards, bees are now settling into their new homes and providing pollination services to the cashew trees, while building up their harvestable reserves of honey.

Participants will continue to receive practical field training and support from Stephen and Akwasi's

team, learning about best practices for the monitoring and management of bee populations. In parallel, Red River Foods will work closely with GBB to officially register the business and conduct a thorough analysis of its operations in order to ensure its sustainability and its ability to support an ambitious plan of growth across the region.

> *"Beekeeping can uplift rural farmers to increase their crop yields and incomes and should therefore be accessible to all."*

The project is already yielding results at the participant and community levels. The first positive outcome is the harvest and sale of honey. The second key outcome is the growing awareness and interest among farmers in the region. New farmers are constantly reaching out to Stephen and Akwasi to learn more about beekeeping and participate in his work. This interest is creating the potential for an emerging supply of quality honey from the region. The third outcome is tied to the vision of teaching youth a valuable skill, thus enabling them to creating their own means of income. This aspect is incredibly important, as it addresses the widespread issue of unemployed youth in the area.

The income gained by participants has already had a massive impact on their livelihoods; beekeeping provides a steady new revenue stream to supplement their income from cashew production. To date, participants have harvested 1,140 liters of honey, resulting in over US$4,500 in additional direct income. With support from the Red River Foods beekeeping team and GBB, participants are now managing 350 beehives. GBB manages an additional 700 hives in the greater area. Through this network, they are already able to commercialize over 2,500 liters of honey annually. Many participants have also reported a noticeable increase in their cashew yields, likely due to increased pollination from their managed bee populations.

In addition to the aforementioned impacts, the creation of GBB has the potential to become the project's greatest achievement. As a registered business, GBB will be able to reliably employ a team of young people and obtain bank loans to further invest in beekeeping work and the honey trade. The business continues to gain notoriety, stoking further interest in beekeeping.

This project fills a key gap with smallholder cashew producers. Many cashew farmers generate most if not all of their income during the three-month cashew harvest period. Not only does this make it difficult to afford school, medical and general living costs throughout the year, it also makes farmers and their households vulnerable to crop failure, market volatility and other factors outside their control. By diversifying their income through a practice that they can couple with their cashew production, farmers and their families become more resilient to these external factors.

The cashew nut industry relies on millions of smallholder farmers in West Africa to maintain a steady supply of product. Therefore, this project is an excellent example of engaging directly with these farmers and empowering them to increase their incomes while also making their livelihoods and their environments more resilient. Looking forward, Red River Foods plans to continue supporting beekeeping in Ghana and expand the project into neighboring Côte d'Ivoire.

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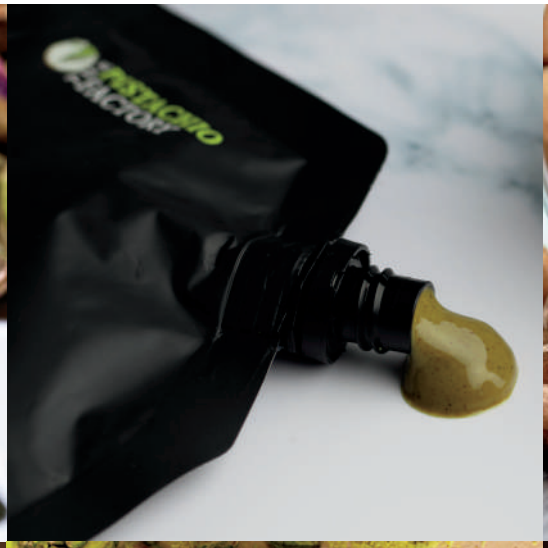



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Country/Product Spotlight

Pistachios & California

Industry Highlight
An overview of production, trade and consumption

Increasing Climate Resilience of California Pistachios
How the industry can combat declining winter chill and reductions in water quality and quantity

Health Benefits of Pistachios
Discover the nutritional qualities of this scrumptious nut

New Product Launches
Insights into new products that utilize pistachios

This Country/Product Spotlight is the 14th in a series of industry and market overviews in *Nutfruit* magazine. This report provides a snapshot of the pistachio industry in California, with data, analysis and trends.

Industry Highlight

The California Pistachio Industry in Numbers

186,276 HA
bearing planted area

677,830 MT
production*
(2023/24, in-shell basis)

54%
of the world's pistachio supply (5-year average)

332,721 MT
exports**
(YTD Sept-Apr 2023/24)

* On year.
** Includes open in-shell, kernel, closed shell and shelling stock pistachios.

Production

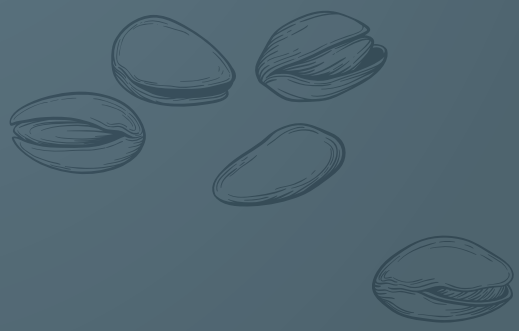
California's Central Valley offers the perfect ingredients for pistachio production, thanks to its hot, arid summers, mild winters, fertile soil and abundant sunlight. *Pistacia vera* L., the pistachio species grown commercially in California, is native to Central Asia. It was first brought to the United States in 1854 but remained a marginal crop for several decades. Pistachio cultivation finally became more widespread in the 1960s, and California's first commercial crop, amounting to 680 metric tons (MT), was harvested in 1976.[1]

The state's planted area subsequently expanded rapidly, growing from 687 bearing hectares in 1977[1] to 186,276 in 2023 (Table 1), concentrated primarily in the southern San Joaquin Valley. Nowadays, California is renowned as a global hub for pistachio cultivation. The state's top five pistachio-growing counties, by bearing planted area, are Kern, Fresno, Tulare, Madera and Kings (Figure 1).

Table 1.
Growth of California Pistachio Planted Area, 2014-2023

Year	Hectares, Bearing	Hectares, Non-bearing
2014	89,093	30,680
2015	93,993	32,001
2016	96,712	31,597
2017	109,084	65,603
2018	122,031	64,172
2019	137,257	60,036
2020	150,040	63,488
2021	166,311	60,865
2022	174,699	65,657
2023	186,276	58,323

Source: Administrative Committee for Pistachios, *2023 Statistics* and sources quoted therein.



1. Geisseler, D., and Horwath, W.R. (2016). *Pistachio Production in California*. California Department of Food and Agriculture Fertilizer Research and Education Program.

Figure 1.
Top Pistachio-Growing Counties in California by Bearing Hectares, 2023
Source: Administrative Committee for Pistachios, *2023 Statistics* and sources quoted therein.

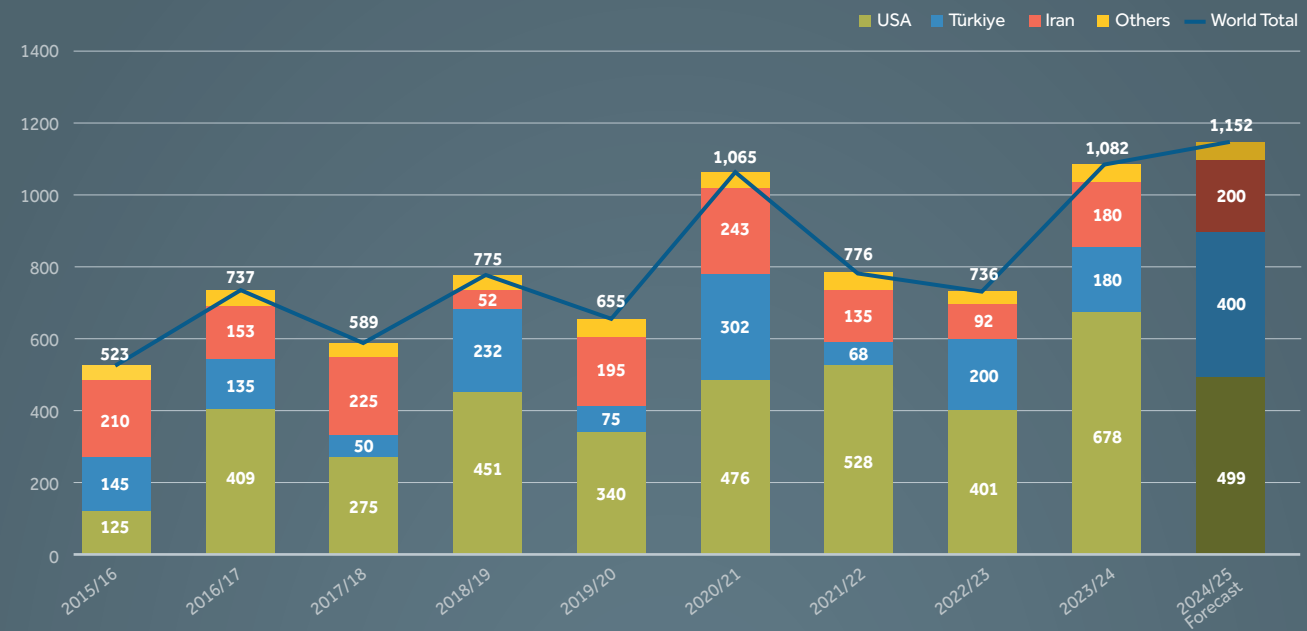
Pistachio trees are dioecious —i.e. the nut-producing female flowers and the pollen-producing male flowers grow on different cultivars— and pollinated by the wind. Nut production requires the presence of both male and female trees, and bloom synchrony between the male and female cultivars is essential.[2]

Traditionally, the California pistachio industry has relied almost entirely on only one nut-bearing female cultivar (Kerman) and one pollinating male (Peters). However, as the industry has expanded, issues associated with dependence on these two varieties have become more apparent: genetic vulnerability to pests, inadequate bloom synchrony in years with an insufficient winter rest period (i.e. chilling hours), and crops ripening at the same time across the state, leading to a very concentrated harvest period and placing pressure on harvesting and processing resources. Consequently, the industry has begun to plant new cultivars with different harvest maturity dates. As of 2018, about 34,744 hectares of Golden Hills and 4,040 hectares of Lost Hills had been planted.[3]

California accounts for more than 99% of the US pistachio crop.[4] Between 2020/21 and 2024/25, the United States produced an average of 516,514 MT of pistachios (in-shell basis), accounting for 54% of the world's pistachio supply. In spite of the normal variance of off and on years, the California pistachio crop has followed an upward trend over the past decade, hitting a record at 678,000 MT in 2023/24. Between 2015/16 and 2024/25, the compound average growth rate of California pistachio production was 17%, compared to 9% for the global pistachio crop (Figure 2).

2. Kallsen, C.E., Parfitt, D.E., Maranto, J., et al. (2009). New pistachio varieties show promise for California cultivation. *California Agriculture*, 63(1).
3. Kallsen, C.E., Parfitt, D.E., Maranto, J. (2020). UC pistachio cultivars show improved nut quality and are ready for harvest earlier than 'Kerman'. *California Agriculture*, 74(2).
4. California Foundation for Agriculture in the Classroom (2022). *Commodity Fact Sheet: Pistachios*. https://cdn.agclassroom.org/ca/resources/fact/pistachios.pdf

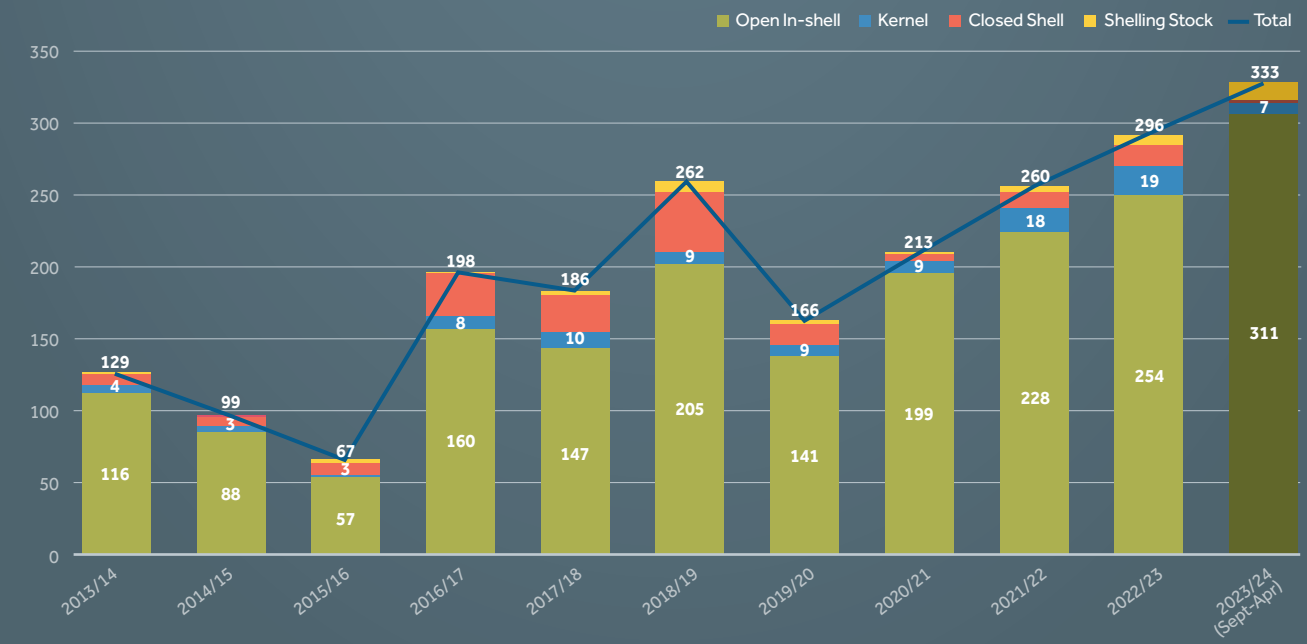
Figure 2.
World Pistachio Production, In-shell Basis, Thousand Metric Tons
Source: INC.



Trade

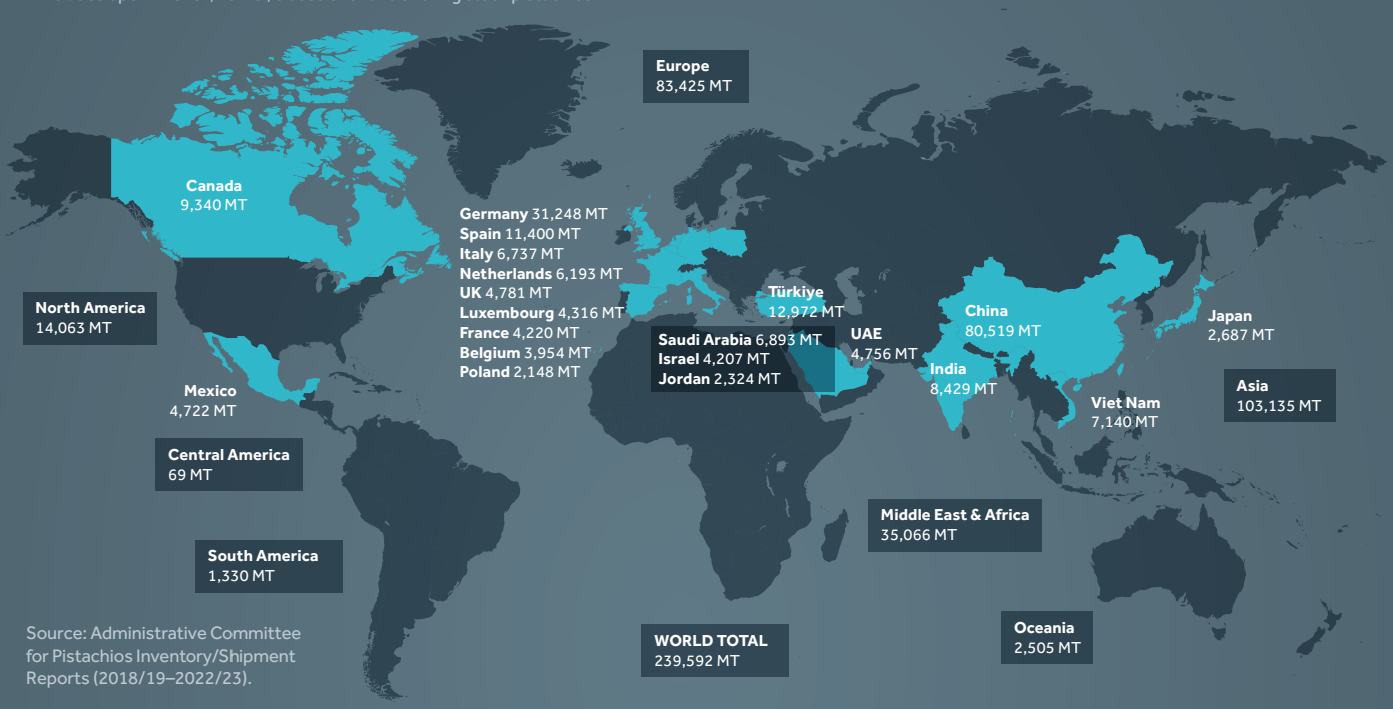
Besides being the world's top producer of pistachios, the United States is also the leading exporter. Total US pistachio export shipments have risen over the past decade, posting a compound annual growth rate of 10% between 2013/14 and 2022/23. International shipments year-to-date between September 2023 and April 2024 have reached an estimated 332,721 MT, a 68% increase from the same period last season. With four months remaining in the marketing year, these shipments have already surpassed the total for any entire season in the last decade. Exports are dominated by open in-shell pistachios, which accounted for 85% of shipments in 2022/23. Although kernels represent a small fraction of US pistachio exports in absolute terms, they have gained ground over the past decade with a compound annual growth rate of 20%, peaking at 19,000 MT (6% of total US pistachio exports) in 2022/23 (Figure 3).

Figure 3.
Total US Pistachio Export Shipments, 2013/14–2023/24, Thousand Metric Tons
Source: Administrative Committee for Pistachios Inventory/Shipment Reports.



China is, by far, the top importer of US pistachios, averaging 80,519 MT between 2018/19 and 2022/23. The second destination over the same period was Germany, with an average of 31,248 MT, followed by Türkiye with 12,972 MT, Spain with 11,400 MT and Canada with 9,340 MT (Figure 4). US pistachio kernel exports have more than doubled in the past five years, going from 8,725 MT in 2018/19 to 19,008 MT in 2022/23. Over the same period, the leading kernel importers were Türkiye, which received an average of 3,247 MT, followed by Canada with 1,371 MT and Italy with 1,023 MT.

Figure 4.
Top Destinations of US Pistachios, 5-Year Average, Metric Tons*
* Includes open in-shell, kernel, closed shell and shelling stock pistachios.

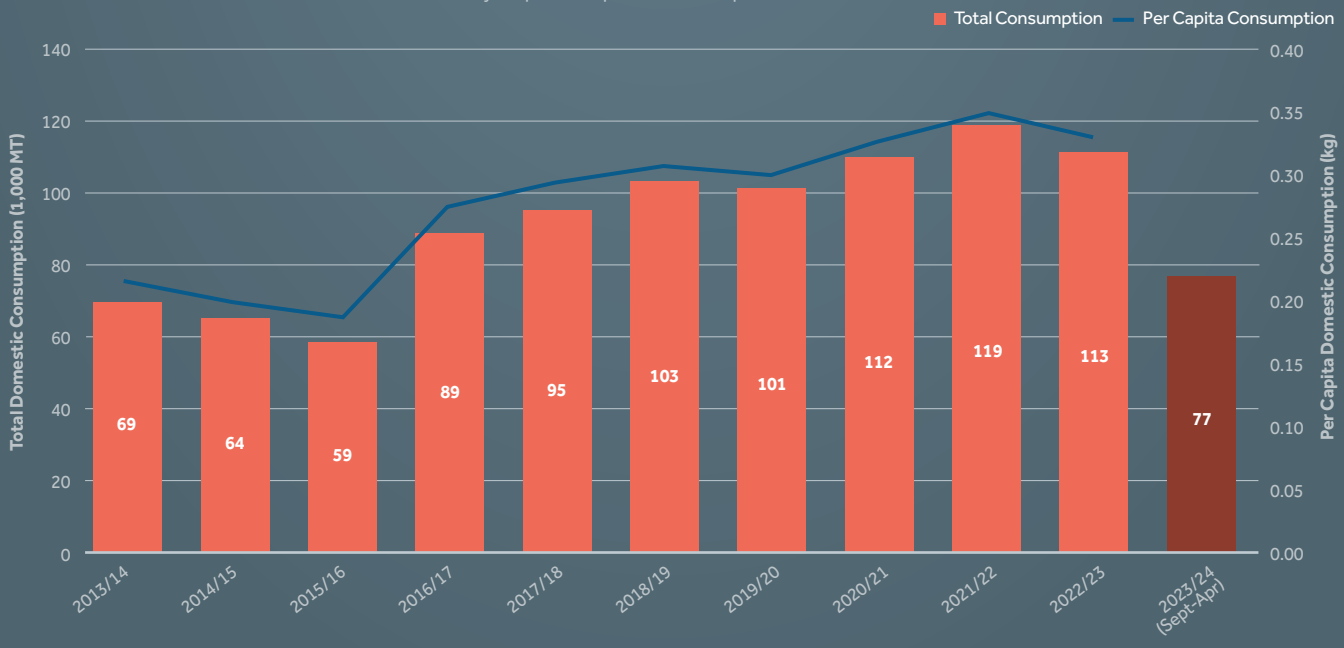


Source: Administrative Committee for Pistachios Inventory/Shipment Reports (2018/19–2022/23).

Consumption

The United States is the top destination for California pistachios. Domestic shipments have risen steadily in recent years, with a compound annual growth rate of 6% between 2013/14 and 2022/23, peaking at 119,000 MT in 2021/22 before dipping slightly to 113,000 MT in 2022/23. Per capita domestic consumption followed a similar trend, peaking at 0.35 kg in 2021/22 (Figure 5).

Figure 5.
US Domestic Pistachio Consumption, Total (Thousand Metric Tons) and Per Capita (kg)*
* Includes open in-shell, kernel, closed shell and shelling stock pistachios.
Sources: Administrative Committee for Pistachios Inventory/Shipment Reports and UN Population Division.



Increasing Climate Resilience of California Pistachios

IVAN BERMUDEZ
GRADUATE STUDENT, DEPARTMENT OF PLANT SCIENCES, UNIVERSITY OF CALIFORNIA, DAVIS

DR. PAULA GUZMÁN-DELGADO
PROJECT SCIENTIST, DEPARTMENT OF PLANT SCIENCES, UNIVERSITY OF CALIFORNIA, DAVIS

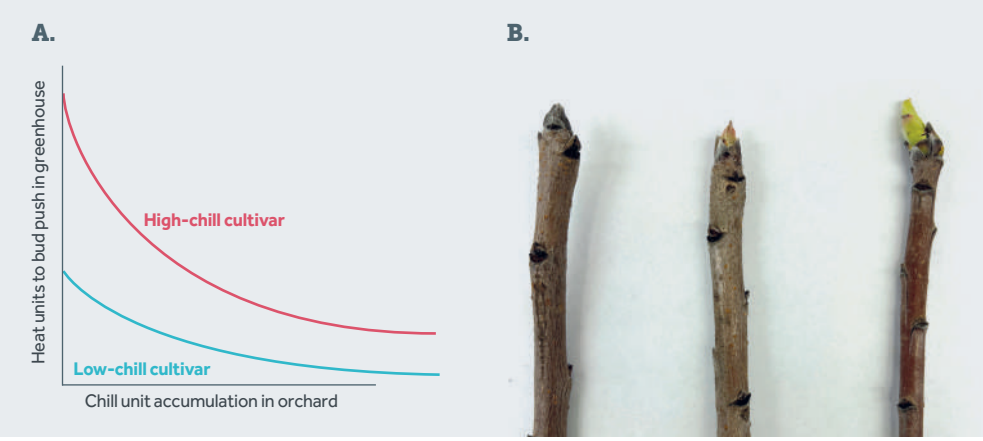
PROF. GIULIA MARINO
ASSOCIATE PROFESSOR OF EXTENSION, DEPARTMENT OF PLANT SCIENCES, UNIVERSITY OF CALIFORNIA, DAVIS

PROF. PAT J. BROWN
ASSOCIATE PROFESSOR, DEPARTMENT OF PLANT SCIENCES, UNIVERSITY OF CALIFORNIA, DAVIS

PROF. LOUISE FERGUSON
DISTINGUISHED PROFESSOR OF EXTENSION, DEPARTMENT OF PLANT SCIENCES, UNIVERSITY OF CALIFORNIA, DAVIS

The pistachio industry in California is thriving; prices are competitive with other tree nuts, and many new orchards are being planted. However, as a dioecious tree with a high chill requirement that is widely planted across many critically overdrafted basins in California, pistachio is also vulnerable to climate change, particularly declining winter chill and reductions in water quality and quantity.

Figure 1.



A) Relationship between accumulated chill and heat units to bud push.
B) Examples of a dormant stick (left) and sticks with buds pushing (middle and right). Photo: Ivan Bermudez.

Declining Winter Chill

Pistachio, like other deciduous trees, requires exposure to prolonged periods of cold temperatures during the winter to break out of dormancy in a timely manner during the spring. In the absence of sufficient winter chill, pistachio trees exhibit delayed and non-uniform bud break, along with weak and asynchronous bloom between female cultivars and male pollinizer varieties.[1] The winter of 2014-2015 had the highest average monthly temperatures in 121 years of record, and the California pistachio industry saw a 50% decrease in yield per bearing acre from the previous year.[2] Unfortunately, these mild winters are only predicted to become more common in California. Marginal chill hours were observed again this winter (2023-2024), and we'll soon know the extent to which pistachio yields have been impacted.

Preparing for future mild winters will require both improved management in the short term and improved genetics in the long term. To improve management, we need to better understand and predict how changing weather patterns affect pistachio dormancy. We can obtain useful data by collecting sticks from dormant pistachio trees throughout the winter and placing them in a warm greenhouse environment to simulate spring heat. Sticks collected later in the winter have accumulated more chill and push their buds more quickly (Figure 1). Meteorological data from each orchard are used to assign chill units, and greenhouse temperatures are used to assign heat units to each stick based on how long they took to push in the greenhouse. More predictive models will improve selection of male pollenizers during orchard establishment and improve timing of dormancy-breaking agents in established orchards. In the long term, more low-chill pistachio cultivars are needed. Golden Hills has a lower chill requirement than Kerman, and the chill requirement of Gumdrop is lower still. But as Kerman becomes more unreliable in a lower-chill future, we'll need another low-chill variety to fill this harvest window.

Reduced Water Quality

An additional result of climate change is the effect on water availability and quality. Higher temperatures decrease snow melt for dams and decrease precipitation for groundwater recharge. In ancient seabeds like the lower west side of the San Joaquin Valley, where soil salts are already high, groundwater salinity is further increased due to drought and fertigation. Currently, over 60% of California's pistachio production is on moderately (4 dS/m) to extremely saline (16 dS/m) ground.

Previous studies by Ferguson et al.,[3] Sanden et al.[4,5] and Marino et al.[6] have shown that pistachios can be grown profitably if soil electrical conductivity (EC_e) is maintained at approximately 4.5–6 dS/m. The widely studied approach for controlling salt buildup involves applying 1 to 2 acre-feet of good-quality water for winter leaching by flooding or sprinkler systems. However, the availability of high-quality surface water from canals is diminishing due to persistent drought and increasing demand. As a result, growers are relying on saline pumped groundwater for in-season irrigation and winter leaching, particularly in the lower west side of the San Joaquin Valley. When saline irrigation water is used, having real-time information about both the soil's available water content (AWC) and the soil salinity profile (ECe) would be very helpful.

Recently, advanced monitoring technologies with in-dwelling multiple capacitance sensors that continuously monitor real-time soil AWC and salinity (ECe) levels have become available. Monitoring the salinity profile in real time could significantly enhance the ability to manage irrigation to facilitate in-season leaching. The efficacy of using large-volume sprinklers or flood leaching during dormancy is well documented. However, the existing calculations for leaching requirements were developed based on one-dimensional 100% surface wetting, and there has not been a comprehensive investigation into the efficacy of single and double drip lines in managing root zone salinity through in-season leaching fractions and small-volume in-row pulsed dormant leaching.

Collectively, after two seasons, the results thus far indicate that the combination of a double irrigation line and in-season leaching have the best potential for controlling salinity in the wetted rootzone. The results also demonstrated that real-time soil monitoring using in-dwelling soil probes is useful for understanding soil water and ion movement in different soil profiles.

Reduced Water Quantity

The pistachio industry faces unprecedented challenges due to water scarcity driven by recurring droughts and environmental regulations. Current irrigation recommendations, designed to maximize tree hydration, are no longer sustainable, prompting the need for new protocols and tools that enhance profitability with reduced water use.

Fortunately, pistachios are xerophytes, a term deriving from the Greek *xeros* for "dry" and *phytón* for "plant," highlighting the species' high tolerance to drought. Previous studies demonstrated that reducing water application during pit hardening (June) does not impact productivity and improves split percentage at harvest, but also increases early split and, thus, nut susceptibility to contamination.[7]

These studies, performed on the cultivar Kerman planted on PG1 rootstocks, need a follow-up to consider current industry conditions. Golden Hills has become the most planted cultivar, UCB-1 is the most popular rootstock, pistachio has expanded in new areas of California, and new technologies for irrigation management are available. Additionally, the lack of plant-based water stress indicators for pistachio complicates water management decisions.

Our research team at UC Davis is investigating the effects of reduced irrigation applications on Golden Hills yield and yield quality. We are working on defining reliable and easy-to-measure pistachio-specific water status indicators through the integrated use of traditional and newer measurement techniques. Our first-year preliminary results suggest that significant water reduction in spring (until mid-June) and moderate reduction throughout the season can improve nut split percentages and reduce insect damage. However, due to the unusually wet conditions of the previous season, results must be interpreted cautiously. We will expand this study for several years, which will enable us to draw robust conclusions to define irrigation management guidelines under reduced water availability.

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Health Benefits of Pistachios

The scrumptious pistachio has a key role to play in a healthy diet. Packed with key nutrients, this unique nut is associated with countless health benefits, ranging from weight control to sleep quality and diabetes prevention/management. Read on to discover what science has revealed about the advantages of this tiny green powerhouse.

Nutritional Content

Recent research has enhanced the pistachio's longstanding reputation as a protein source. A study published in 2020 found that the nut contains "good" quality protein, as measured by digestible indispensable amino acid score (DIAAS).[1] In 2023, an article published in *Nutrients*[2] reviewed the protein science related to pistachios and explained how this nut may contribute to daily protein intakes and amino acid profiles as part of a shift towards plant-based protein sources. The authors concluded that pistachios have a key role to play in providing good-quality, ready-to-eat, plant-based protein, and that consumption of these nuts has the potential to alleviate pressure from other food protein production methods that contribute to environmental strain. In short, the pistachio is "green" in more ways than one!

Pistachios are high in monounsaturated fats,[3] which may help you reduce your blood sugar levels[4,5] and help you improve your cardiovascular health.[6] They are also high in fiber, vitamins B_1 and B_6, and minerals such as phosphorus, potassium, manganese and copper. Moreover, they are a source of vitamins A, E, B_2 and K, minerals such as iron, magnesium, selenium and zinc, and, of course, protein.[7]

KEY HEALTH BENEFITS

- Complete protein
- Diabetes prevention and control
- Weight management
- Heart health
- Antioxidants
- Immune system support
- Post-exercise recovery
- Melatonin and sleep quality

HIGH IN:
Monounsaturated fats, fiber, vitamin B_1, vitamin B_6, phosphorus, potassium, manganese and copper

SOURCE OF:
Protein, vitamin A, vitamin E, vitamin B_2, vitamin K, iron, magnesium, selenium and zinc

Staying Healthy With Pistachios

Over the years, studies have found that pistachios may have a positive effect on health in a number of areas, including weight control,[8,9] sleep quality[10] and diabetes management.[11-13] More recently, research has pointed to more unexpected ways in which the pistachio enhances healthy living.

In 2023, a study published in the *European Journal of Sport Science*[14] investigated the impact of pistachio consumption on muscle soreness and function following exercise-induced muscle damage. A total of 18 physically active men were assigned to three groups and instructed to consume either a standard daily dose (42.5 g) of pistachios, a higher daily dose (85 g) of pistachios or, in the case of the control group, water. On completion of the two-week intervention period, participants performed a 40-minute treadmill run to induce muscle damage. The trial was designed as a randomized crossover trial with a minimum three-week washout period between interventions. Pistachio intervention or control ingestion was continued on the day of the muscle-damaging exercise and on the following three days. Lower limb muscle soreness was measured pre-exercise and 24, 48 and 72 hours after exercise. Average quadriceps soreness in the non-dominant leg during the recovery period was lower in participants who had eaten the higher dose of pistachios as compared to those who ingested water. The findings suggest that high-dose pistachio consumption may provide some alleviation of soreness following modest exercise-induced muscle damage.

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Date and Pistachio Kulfi

Servings: 8

Ingredients:

- 100 g roasted pistachios
- 480 g coconut milk
- 100 g pitted dates soaked in water for 60 minutes
- 200 ml almond drink
- 2 tbsp tapioca starch
- ¼ tsp cardamom powder
- ¼ tsp ginger powder

Optional for chocolate coating:

- 50 g dark chocolate
- 20 g roasted pistachios, chopped

Preparation:

1. Add pistachios to a blender and make a slightly coarse powder. Set aside.
2. Blend the dates and coconut milk until smooth. Set aside.
3. In a pot, bring coconut milk and date mixture to a boil for 10 minutes on medium heat.
4. Add the tapioca starch to the almond drink and stir well. Make sure there are no lumps. Add to the pot and lower the heat. Keep stirring and simmer.
5. Add pistachios, cardamom powder and ginger. Mix well and make sure there are no lumps.
6. Turn off the heat and let cool. The mixture will thicken further upon cooling.
7. Pour mixture into ice cream molds.
8. Freeze overnight or for at least 4 hours.
9. Melt 50 g of dark chocolate in a small stainless-steel bowl over a pan of hot water on low heat. Heat until melted but not hot. Dip each kulfi in the chocolate to coat it and sprinkle with pistachios.

New Product Launches

Celebrated for their vibrant green hue and unique blend of savory and slightly sweet flavors, pistachios have won the hearts and palates of people worldwide. Whether enjoyed on their own as a satisfying treat or incorporated into a wide array of culinary delights, these cherished nuts offer a burst of flavor and nutrition that appeals to discerning consumers seeking both taste and wellness. As the demand for wholesome, plant-based options continues to surge, pistachios have emerged as a standout ingredient, inspiring a wave of innovative product developments across the globe.

Wonderful Jalapeño Lime Pistachios

USA

These spicy-but-not-too-spicy pistachios are seasoned with jalapeño pepper, sea salt and a tangy twist of lime.

www.wonderfulpistachios.com/products/jalapeno-lime-no-shells

Setton Farms Tajin Chili & Lime Pistachios

USA

These flavorful pistachios feature authentic tajin seasoning, made from natural chili peppers, lime and sea salt.

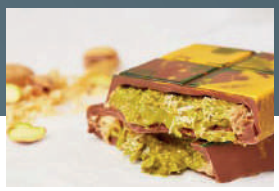
www.settonfarms.com/consumerproducts

Cornitos Roasted Pistachios Lightly Salted

India

Each pistachio is meticulously roasted, preserving its natural flavors and ensuring a satisfying crunch.

https://www.cornitos.in/product-range/nuts-seeds/



Fix Dessert Chocolatier "Can't Get Khanafed of It"

UAE

This gourmet milk chocolate bar filled with khanafeh, pistachios and tahini has been a viral sensation in Dubai this year.

https://www.instagram.com/p/Cq99PbWpz9c/

KoRo Bio Pistazienschnitte

Germany

These organic wafers contain sweet, creamy vegan white chocolate — as well as 45% pistachio!

korodrogerie.de/en/organic-pistachio-wafers-with-45-pistachio-22g

Planters Nut Duos Peppercorn Pistachios & Parmesan Flavored Cashews

USA

The sophisticated pairing of peppercorn and parmesan is combined with the delicious textures of crunchy pistachio and creamy cashew.

https://www.planters.com/product/planters-nut-duos-peppercorn-pistachios-parmesan-cashews-5-oz-bag/

Táche Pistachio Milk Latte

USA

A delicious, dairy-free latte made with 100% freshly brewed cold brew and lightly sweet and creamy pistachio drink.

pistachiomilk.com/products/tache-pistachio-milk-latte

The NUTPOOL International Prospective Study

PROF. JORDI SALAS-SALVADÓ

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

DR. MARTA GUASCH-FERRÉ

Associate Professor. Section of Epidemiology, Department of Public Health, and Novo Nordisk Foundation Center for Basic Metabolic Research, University of Copenhagen (Denmark).

The NUTPOOL project is an important opportunity to shape public health recommendations and dietary guidelines, potentially influencing healthier dietary patterns worldwide.

In the last two decades, some prospective observational studies conducted in large populations have explored the associations between the frequency of nut consumption and the prevention of non-communicable diseases. Observational cohort studies follow a group of people (called a cohort) over a period of time, for example, 5, 10 or 20 years, collecting data on their exposure to a factor of interest (in this case, the quantity of nuts consumed). Their outcomes (in this case, non-communicable diseases) are then monitored, to investigate the association between the exposure and the outcome.

Regarding nut consumption, several studies have demonstrated that compared to individuals rarely consuming nuts, those frequently consuming nuts showed a lower risk of cardiovascular diseases. However, findings from previous studies have been conflicting for some health outcomes, such as type 2 diabetes, and largely underexplored for other outcomes, such as neurodegenerative diseases.

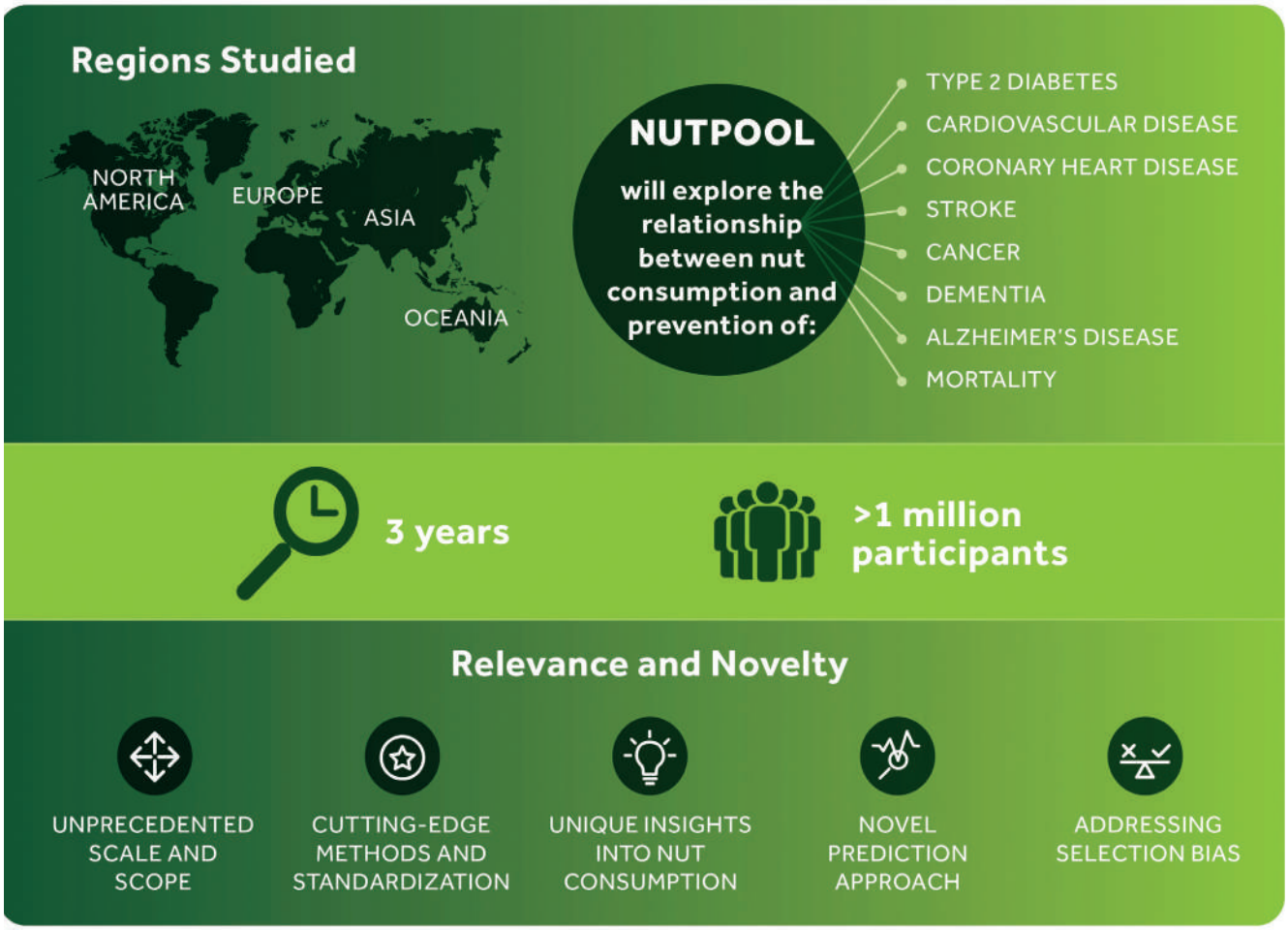
The reason for the inconsistencies observed between studies may be multiple, such as different analytical approaches and confounding factors considered across studies, or the population in which the study was based. Most of the previous studies have focused on populations in Europe or the United States of America, potentially restricting the broader applicability of the findings to other global regions.

> *"With over 1 million participants, this study will be the first of its kind."*

In addition, few studies have analyzed a potential dose-response relationship (that is, if more nuts are consumed, the preventive effect is greater).

In the context of the NUTS 2022 meeting, we —Dr. Marta Guasch-Ferré, from the University of Copenhagen (Denmark), and Prof. Jordi Salas-Salvadó, from Rovira i Virgili University (Spain)— had the brilliant idea of conducting an individual pooled data meta-analysis in order to overcome all the limitations inherent to the previous research in this field. The NUTPOOL study is funded by the INC, International Nut and Dried Fruit Council, as it tackles the great challenge of expanding the scientific evidence on the relationship between the consumption of nuts and health.

The goal of the NUTPOOL project, on which Dr. Guasch-Ferré is the principal investigator and Prof. Salas-Salvadó is the co-principal investigator, is to conduct an individual pooled data meta-analysis (a statistical approach) pooling results



of worldwide representative large prospective cohort studies on the associations of total and specific types of nut consumption and the prevention of non-communicable diseases.

This project will use cutting-edge epidemiological approaches to leverage existing resources from worldwide prospective cohorts. We expect that about 20 cohorts with >1 million participants will be included in the analysis, representing populations across North America, Europe, Asia and Oceania. Therefore, NUTPOOL will undoubtedly represent a turning point in nutritional epidemiology in relation to nuts and health.

We hypothesize that higher consumption of nuts is associated with a lower risk of developing several non-communicable diseases and mortality, independent of other risk factors, including dietary patterns, lifestyle and socio-demographic factors.

The following are the main aims of NUTPOOL: 1) to evaluate the associations between the consumption of total and specific types of nuts and the incidence of non-communicable diseases, including type 2 diabetes, total cardiovascular disease (coronary heart disease, stroke) and cardiovascular mortality, total cancer and cancer mortality, neurodegenerative diseases (dementia and Alzheimer's diseases), and all-cause mortality; 2) to determine whether these associations are consistent across specific types of nuts; and 3) to evaluate potential dose-response relationships and subgroup analyses based on demographics, geography or other relevant factors, including type 2 diabetes, obesity, age, sex, race/ethnicity, physical activity and overall dietary pattern adherence, among others.

As of today, we have contacted several investigators around the world who are very interested in joining this initiative, which has made us see that this project has high expectations of successfully reaching its end.

We expect that the NUTPOOL project will contribute substantively to shaping public health recommendations and dietary guidelines, potentially influencing healthier dietary patterns worldwide and contributing to the sustainable development of the planet for future generations.

For more information: https://nutpool.eu/

Upcycling Nut Coproducts for Food and Nutraceutical Applications

PROF. CESARETTIN ALASALVAR

SENIOR CHIEF RESEARCHER AT TÜBİTAK MARMARA RESEARCH CENTER, GEBZE, KOCAELİ, TÜRKİYE

Cesarettin Alasalvar (PhD, FISNFF, FIFT, FIAFoST, FRSC) is a Senior Chief Researcher at TÜBİTAK Marmara Research Center. His research focuses mainly on the development and health benefits of functional foods and nutraceuticals. He has been very active in the Horizon 2020 and Horizon Europe programs as Turkish Delegate. He serves as senior editor of the journal *Food Chemistry* and associate editor of the *Journal of Food Bioactives*. He was awarded the 2024 INC Award for Excellence in Research for his outstanding contributions to the field of health and nutrition research on nuts and dried fruits.

Upcycling nut coproducts, such as husks, hard shells, and skins, for various food and nutraceutical applications has great potential, not only to reduce/minimize waste, but also for the circular economy —e.g. moving beyond simply recycling waste by enabling the transformation of coproducts into high-value resources.

World nut production —including both tree nuts and peanuts— has shown a rising trend over the past decade. Total production amounted to 56.1 million metric tons (MT) in the 2022/23 season, of which peanuts accounted for approximately 50.7 million MT and tree nuts approximately 5.4 million MT.[1] The commercial nut group includes almond, Brazil nut, cashew, hazelnut, macadamia, peanut (a legume), pecan, pine nut, pistachio and walnut. Nuts are important raw material for the food processing industry, including in confectionery, chocolate, baked goods, beverages, and cooking oil.

Large quantities of coproducts, namely husks, hard shells, brown skins, defatted flours, cones, cashew nut shell liquid, and cashew apple, are available after the harvesting and/or industrial processing of nuts. These coproducts vary depending on the nut. Despite some new and value-added product initiatives, the current application of nut coproducts is largely limited to natural fertilizers for trees (green husks), heat sources for bakery (hard shells and cones), chicken feed (defatted flours), drying chicken farm floors (brown skins), fuel/heat sources (cashew nut shell liquid), and fresh apple or animal feed (cashew apple). However, these coproducts are rich sources of diverse polyphenolic compounds, fiber, oil, protein, and bioactive peptides, among other components[2,3] that can be utilized by applying various sustainable extraction technologies for functional food and nutraceutical applications. Thanks to the presence of all these components, nut coproducts lend themselves for use as value-added products to promote better health and well-being. Therefore, upcycling the coproducts for various applications has great potential, not only to reduce or minimize waste, but also for the circular economy (e.g. moving beyond simply recycling waste by enabling the transformation of coproducts into high-value resources). Studies investigating the upcycling of nut coproducts have increased in recent years. This article provides an overview of how the value of nut coproducts can be maximized for food and nutraceutical applications.

Nut coproducts are rich in phytochemicals, which play important roles in health promotion and disease prevention. Phytochemicals are non-nutritive, naturally occurring and biologically active chemical compounds found in plants and their coproducts. There are many classes of phytochemicals, of which polyphenols are the main one. Developing value-added products from these coproducts has gained popularity over the last decade. Some food and nutraceutical applications of these coproducts are highlighted below and summarized in Table 1.

- **Brown skins:** Rich in antioxidants, dietary fiber, polyphenols, and certain prebiotics. Applications include various food products such as natural antioxidants, prebiotics, bread, cereal bars, functional carbohydrates, additives, and food coloring.

- **Defatted flours (meals/cakes):** Rich in protein, protein hydrolysates, and peptides. Applications include gluten-free bread and fortified foods (such as ice cream, cocoa cream, functional beverages, yoghurt, milk, and food additives).

- **Hard shells:** Applications include various food products such as natural antioxidants, natural antimicrobials, prebiotics, starch/gelatin-based films, food coloring, and tea beverages. Promising emerging prebiotics, such as arabino-xylooligosaccharides and xylooligosaccharides, improve the gastrointestinal health of the host.

- **Husks:** Rich in polyphenols and antioxidants. Applications include food additives, coffee replacements, tea beverages, beer, high-fiber bread, baked goods, and nutritional bars.

- **Cones:** Rich in polysaccharides that enhance immune responses. Cone powder can be used as dietary fiber for baked goods, natural antioxidants, food additives, and nutraceuticals.

- **Cashew nut shell liquid:** Rich in anacardic acid, cardanol, cardol, and 2-methylcardol. It is mainly used for pharmaceutical applications but also as a natural antioxidant in bulk oil.

- **Cashew apple:** Rich in dietary fiber, phytonutrients, minerals, and vitamin C. Some popular products obtained from cashew apple are vinegar, jam, pickles, and a wide variety of soft drinks. Cashew apple juice is also fermented to produce liquor.

In conclusion, there is an opportunity for the recovery of coproducts and target compounds as well as the formulation of new products. Numerous health-promoting compounds such as vitamins, minerals, phytochemicals/bioactives, fibers, proteins, protein hydrolysates, peptides, polysaccharides, prebiotics, and oils are present in nut coproducts, together with their corresponding antioxidant and antimicrobial activities. Therefore, nut coproducts can serve as a valuable source of functional foods and nutraceuticals. The benefits of nut coproducts and their phytochemicals/bioactives have not been fully explored compared to nut kernels. Therefore, more detailed research and well-designed human clinical trials are needed to validate the health benefits of nut coproducts. Maximizing value and minimizing waste of nut coproducts are also of great importance for the circular economy and consumer health.

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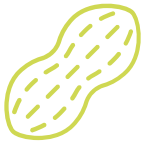
Table 1.
Food and nutraceutical applications of nut coproducts.

NUT COPRODUCTS					
Skins	**Defatted flours**	**Hard shells**	**Husks**	**Cones**	**Cashew nut shell liquid / apple**
• Natural antioxidants • Prebiotics • Bread • Cereal bars • Functional carbohydrate • Food additives • Food coloring	• Ice cream • Cocoa cream • Functional beverages • Yoghurt • Milk • Food additives	• Natural antioxidants • Natural antimicrobials • Prebiotics • Starch/gelatin-based films • Food colorants • Tea beverages	• Food additives • Coffee replacements • Tea beverages and beer • High-fiber bread • Baked goods • Nutritional bars	• Dietary fiber for baked goods • Natural antioxidants • Food additives • Nutraceuticals	• Natural antioxidants • Soft drinks • Syrup • Wine and liquor • Vinegar and pickles • Jam

New Scientific Studies



Study Led by INC Award-Winning Researcher Reveals Key to Long-Lasting Peanut Allergy Prevention

Du Toit, et al. (2024).

Follow-up to Adolescence after Early Peanut Introduction for Allergy Prevention.

NEJM Evidence, 3(6), EVIDoa2300311.

Building on the results of the groundbreaking Learning Early About Peanut Allergy (LEAP) trial, this new follow-up study set out to examine the durability of peanut tolerance. In the original LEAP trial, half of the participants regularly consumed peanut from infancy until five years of age, while the other half avoided peanuts during that period. Early introduction of peanut was found to reduce the risk of peanut allergy at age five by 81%. In the new study, researchers followed up both groups until age 12 years. During that period, the children could choose to eat any amount of peanut as often as they wanted. The findings showed that, at 12 years of age, peanut allergy remained significantly more prevalent in children in the original peanut avoidance group than in the original peanut consumption group (15.4% vs. 4.4%).

The researchers concluded that eating peanuts from infancy until five years of age provided lasting tolerance to peanut into adolescence, irrespective of subsequent peanut consumption.

This study was led by Prof. Gideon Lack, who was awarded the 2023 INC Excellence in Research Award for his prolific work on the prevention of peanut allergy.

Almond Consumption May Improve Body Composition Indices and Hunger Scores

Chahibakhsh, N., et al. (2024).

Almond supplementation on appetite measures, body weight, and body composition in adults: A systematic review and dose-response meta-analysis of 37 randomized controlled trials.

Obesity Reviews, 25(5), e13711.

This study examined the relationship between almond consumption and subjective appetite scores and body composition.

The study was a systematic review and dose-response meta-analysis of 37 randomized controlled trials with 43 treatment arms. 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. The findings suggest that consuming at least 50 grams of almonds per day for at least 12 weeks may significantly improve body composition indices and hunger scores in individuals with a body mass index higher than 30 kg/m^2.

Prune Consumption May Help Preserve Bone Mineral Density in Postmenopausal Women

Koltun, K.J., et al. (2024).

Prunes preserve cortical density and estimated strength of the tibia in a 12-month randomized controlled trial in postmenopausal women: The Prune Study.

Osteoporosis International. 35(5), 863–875.

This study assessed the effect of regular prune consumption on volumetric bone mineral density, bone geometry and estimated bone strength. It formed part of The Prune Study, a 12-month randomized controlled trial of 183 postmenopausal women aged 55 to 75. Participants were randomly assigned to eat 50 g of prunes daily, 100 g of prunes daily or no prunes.

The findings showed that estimated bone strength was significantly maintained in the tibia in participants who ate at least 50 grams of prunes daily, compared with those in the no-prune group. The study adds to a growing body of research showing that eating prunes daily can help mitigate bone loss in older age.

Another study conducted under the umbrella of The Prune Study and published in *The Journal of Nutrition* found that prune supplementation may help prevent adverse effects of menopause on fat distribution, especially belly fat.

The California Prune Board provided funding for The Prune Study.

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ZEESHAN TARIQUE

SENIOR BRAND MANAGER,
PLANTERS®
HORMEL FOODS
USA

Zeeshan Tarique is a Senior Brand Manager at Hormel Foods with over 12 years of experience in brand management and revenue growth management. He joined Hormel Foods through the PLANTERS® brand's acquisition from Kraft Heinz in 2021. Previously, he managed the Maxwell House coffee brand and held key revenue management roles at Kraft Heinz. Zeeshan also brings valuable management consulting experience from Capgemini in India. A trained electronics engineer, he relocated to the US in 2015. Known for his strategic insight and leadership, Zeeshan excels in driving brand growth and innovation. His diverse background and expertise make him a pivotal asset in the competitive food industry.

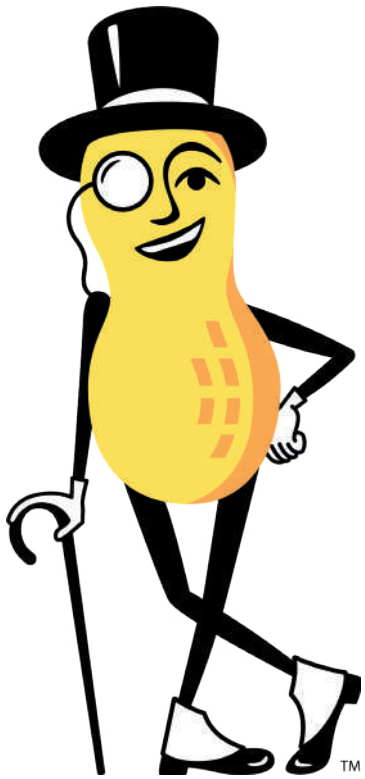
You oversee day-to-day brand building for PLANTERS®. What are the key attributes of the brand?

There are many key attributes of the PLANTERS® brand. However, in my role, I focus on three key attributes: the brand's heritage, innovation and marketing. Our rich heritage and commitment to quality have built consumer trust over more than a century. We prioritize innovation by continuously introducing new offerings to meet evolving consumer needs. Lastly, our iconic marketing, embodied by the Mr. Peanut character, ensures strong recognition and engagement across all marketing channels. These elements together strengthen our brand's position and connect us deeply with our consumers.

How does such a longstanding brand stay fresh in the minds of consumers?

The PLANTERS® brand stays fresh in consumers' minds through continuous innovation and iconic brand marketing. For example, our flavored cashews, which were launched in 2023, have resonated well with younger consumers, offering bold and exciting taste experiences. Recently, we launched Nut Duos, combining two different nut types with complementary flavors, which has been a hit among snack enthusiasts.

Our branding efforts are equally significant. The PLANTERS® brand is known for creating iconic marketing campaigns, such as the sudden death of the Mr. Peanut character, which generated widespread attention and engagement. Some other notable campaigns —like creating customized sneakers around March Madness, holiday campaigns and the "Surrender to the Cashew" campaign— have performed extremely well with our consumers. Our most recent campaign, "Ahhh, Nuts," has been resonating well with core PLANTERS® brand consumers.



You navigated the transition of the PLANTERS® brand from Kraft Heinz to Hormel Foods. How did you ensure continuity and strategic alignment during the acquisition period?

Hormel Foods is one of the most organized organizations in America. Acquisitions are not new to Hormel Foods.

Despite the magnitude of this acquisition, the transition was extremely well managed by the Hormel Foods team. Clear communication, meticulous planning and a focus on our consumers helped us navigate the transition flawlessly. We ensured that our core values and brand integrity remained intact. This approach allowed us to maintain the trust of our customers and continue delivering high-quality products.

PLANTERS® is known for its dynamic product portfolio. How have innovative product launches helped to drive sales?

Innovation is key to growth in the snack nuts category. We have been extremely deliberate and strategic with innovation over the past few years. For instance, in 2023, we launched three new flavored cashew SKUs in the PLANTERS® portfolio, which helped drive sales and attract new consumers to the category. We are also excited about our new Nut Duos launch, which we believe will continue to create excitement and drive sales.

Looking ahead, where do you see the next horizon for demand creation in the nut and dried fruit market? What consumer trends are you keeping an eye on?

There are many trends we are keeping an eye on. Flavor exploration is important as consumers are looking for more diverse flavor options. Additionally, it's important for us to have the right product in the right packaging and available through the right channels for our consumers.

Finally, can you offer us a glimpse into what the future holds for Mr. Peanut?

The Mr. Peanut character is the biggest equity and asset to the PLANTERS® brand. He remains an essential part of our identity, continuing to charm and engage with our consumers. We have exciting plans to further integrate him into our marketing campaigns and brand experiences, ensuring that he remains a beloved figure for years to come.

"The PLANTERS® brand stays fresh in consumers' minds through continuous innovation and iconic brand marketing."


VANCOUVER
INC XLI WORLD NUT AND
DRIED FRUIT CONGRESS
May 8-10, 2024

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We extend our sincere appreciation to all the sponsors, exhibitors, speakers and participants whose collaboration and support helped to make Vancouver 2024 a reality.

VANCOUVER
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congress.nutfruit.org

Keynote Speakers

INC Congress attendees were treated to a pair of keynote addresses that offered variations on a theme: how did we get where we are today, and where are things headed now? Marc Low discussed the transformative impact of artificial intelligence (AI) on business and society, while Prof. Janice Gross Stein explored how to navigate the unfamiliar patterns emerging in today's disordered world.

"This Changes *Everything*: AI, the New Paradigm and Where to From Here"

MARC LOW

Director, Innovation & Emerging Technology
KPMG Canada

A self-described change agent and techno-optimist, Marc Low made the case that AI's moment is already upon us. Using examples from the not-so-distant past, he showed how radical disruptions initially pass unnoticed before catching everyone by surprise.

Mr. Low traced the progress of the AI revolution through three stages: the command line era, the graphical user interface area and the present-day generative era. Recent advances in generative AI are more than just technological advances; they represent a full-blown paradigm shift. "It's this mix of user experience that feels a little bit like magic and technology that works really, really well that changes everything for all of us in the room today," he marveled.

Mr. Low then explored how companies in the nut and dried fruit business can begin to harness the power of AI. He argued that new paradigms will require new approaches. "You've got to get your left-brain engineering types and your right-brain creative types in the same room," he noted. "That's when the magic happens." He urged the assembled business leaders to take a leap of faith and begin to experiment with AI. "Test and validate, and then scale what works," he said. "This is a call to arms about harnessing this technology, identifying where it can create value for you, and using that to create competitive advantage for your organizations."

"A World Disordered"

PROF. JANICE GROSS STEIN

Belzberg Professor of Conflict Management
Founding Director, Munk School of Global Affairs and Public Policy
University of Toronto, Canada

"What's happening in the world is now directly relevant to your business in ways that it has not been, frankly, in our lifetime." With this attention-grabbing declaration, Prof. Janice Gross Stein launched into an insightful and engaging talk about today's rapidly changing world and the implications for business leaders.

From climate change to technology and finally to geopolitics, Prof. Stein outlined the various revolutions that are currently taking place simultaneously. "Every one of you sitting in this room is in the prediction business," she declared. "As leaders, you are now in a world of radical uncertainty because of these intersecting revolutions."

Despite the uncertainty, Prof. Stein offered a message of hope and resilience, highlighting the potential benefits of these simultaneous revolutions. AI will help provide solutions to climate change and make more intelligent business predictions. Technology will revolutionize the workforce. Synthetic biology will manufacture life. Quantum computing promises —yes— a quantum leap in processing power.

Prof. Stein wrapped up her talk by encouraging INC members to be pragmatic. "Be open to information that you're not expecting. Be as nimble as you can," she declared. "Teams that do this stand the best chance of navigating the radical uncertainty that we're in for the next decade."

Sustainability Seminar: Towards a Flourishing Future

VANCOUVER
INC XLI WORLD NUT AND DRIED FRUIT CONGRESS

In a session moderated by Pino Calcagni, the chairs of the INC working groups on sustainability, scientific and government affairs discussed key challenges facing the industry, as well as new horizons and what should be done to ensure a prosperous future for the sector.

Pino Calcagni, Julie Adams, Miriam Gautier and Dr. Miriam Villen King.

> *"The nut and dried fruit industry already has a great sustainability story to tell."*

Pino Calcagni, Chairman of the INC Sustainability, Scientific and Government Affairs Committee, opened the session by reflecting on the growing importance of sustainability and the need to increase global nut and dried fruit consumption. He then welcomed the three panelists: Julie Adams, Vice President of Global Technical and Regulatory Affairs at the Almond Board of California and Chair of the INC International Government and Regulatory Affairs Working Group; Miriam Gautier, Managing Director at Bösch Boden Spies and Chair of the INC Sustainability Working Group; and Dr. Miriam Villen King, Chief Scientist at Stahmann Webster and Chair of the INC Scientific Working Group.

The panelists began the discussion by identifying the biggest challenges currently facing the sector in terms of sustainability. Ms. Adams cited a lack of alignment on how sustainability is defined and stressed the importance of reaching a common understanding regarding what the sector is trying to achieve. Ms. Gautier mentioned the increase in sustainability obligations and reporting requirements. "What is clear is that this regulatory jungle is here to stay," she noted. "We need to communicate clearly along the whole supply chain what is actually required from the retailers, the food industry, or the importers to the farmer level, even including the smallholder farmers." Dr. Villen King provided a farmer's perspective: "We already are applying a lot of eco-friendly practices. The farmers are looking after the soil. They're trying to reduce inputs. They are managing water and waste efficiently." The real challenge, she said, lies in providing proof of commitment and compliance.

The conversation then turned to current trends in sustainability practices. Ms. Adams mentioned that the sector has recognized the need to speak more positively about the practices it has already adopted, for example recycling orchards, recharging aquifers and implementing water efficiency practices. Ms. Gautier cited the rising demand among consumers for transparency along the supply chain. She also noted the importance of building long-term trustful partnerships between growers and their counterparts on the commercial side to bridge the awareness gap regarding sustainability requirements. Dr. Villen King mentioned the sector's innovative use of irrigation and water-management practices, as well as the transition to regenerative agriculture.

On the subject of best practices, Ms. Adams mentioned the need to "benchmark equivalent practices" to account for differences between big and small companies and different origins. Offering a business perspective, Ms. Gautier stressed the importance of companies adopting a long-term approach to sustainability and getting a head start on documentation requirements before they come into effect. Dr. Villen King mentioned some universal practices that can be applied across different commodities and different size farms: "Trying to have a holistic approach about growing our crops, trying to implement regenerative practices, using data and technology to make educated decisions on farm."

In their closing remarks, the panelists reiterated the importance of conveying the sector's sustainability story to the wider public. "Our industry really has amazing products to bring to the market and we as an industry are already well on track when it comes to sustainability," stated Ms. Gautier. Dr. Villen King added that the industry's sustainability narrative stretches well beyond the farm gate, citing the EAT-Lancet Commission's finding that the transition to a healthy and sustainable diet by 2050 will require nut consumption to double. Finally, Ms. Adams concluded: "We have an amazing, nutrient-dense, low-food-waste, affordable product to provide to consumers around the world. I think we have to just continue to be proud of what we are doing, proactively talking about it."

Nutrition Research Seminar: From Guidelines to Dietary Change

Key scientific insights were shared by two distinguished guest speakers: Dr. John L. Sievenpiper, Professor in the Departments of Nutritional Sciences and Medicine at the University of Toronto, and Dr. Kristina Petersen, Associate Professor in the Department of Nutritional Sciences at Penn State University.

Prof. Jordi Salas-Salvadó, Dr. John L. Sievenpiper and Dr. Kristina Petersen

> *"How can we translate scientific evidence into clinical practice and real-world results?"*

The Nutrition Research Seminar was chaired by Prof. Jordi Salas-Salvadó, Chairman of the INC World Forum for Nutrition Research and Dissemination, who opened the session by providing an overview of the INC-funded NUTPOOL study, as well as an update on the most important nutrition research studies involving nuts and dried fruits to be published in the past year.

Dr. John L. Sievenpiper gave a talk on how to move nut-containing dietary patterns from scientific evidence to clinical practice and, ultimately, into the daily lives of patients. The importance of diet is reflected in official clinical practice guidelines across the globe. In practice, however, physicians lack the time, resources and competence to effectively counsel patients on diet, Dr. Sievenpiper argued.

"The most important determinant of getting the benefit of any diet is that you have to get it past the mouth," Dr. Sievenpiper declared. In other words, people have to like the food. No matter how well-designed a diet may be, if people don't follow it, they won't get the benefit. There is no "one-size-fits-all" diet that works everywhere; transcultural approaches to dietary guidelines —such as the tree-nut-containing Portfolio Diet— are therefore essential.

How can physicians increase the chances that patients will adhere to the dietary advice they give? The first step, according to Dr. Sievenpiper, is to actually write a dietary prescription. But much more can and must be done. Dr. Sievenpiper and his team have developed innovative approaches to improving communication and engagement. In addition to updating patient-facing and physician-facing infographics about the Portfolio Diet, they also developed an app that gamifies the diet as a means of nudging patients towards adherence —and thus, towards better health.

Dr. Kristina Petersen began her talk by citing research showing that around 40% of diet-related deaths are related to diets low in fruits, nuts and seeds. Before delving into the research on the potential to improve diet quality by increasing nut and dried fruit consumption, she introduced the Healthy Eating Index (HEI), a measure of diet quality commonly used in the scientific literature. On a scale of 0 to 100, the HEI assesses how well an individual is adhering to dietary recommendations.

The first study mentioned by Dr. Petersen found that people who consume dried fruits have substantially higher diet quality —a difference of about 8 points on the HEI scale— than people who do not. Another study, which modelled what happens if typical snacks are substituted by tree nuts, found a difference of between 8 and 11 points on the HEI scale, depending on which snacks were replaced. Yet another study cited by Dr. Petersen found that eating 1 oz of peanuts per day as an evening snack instead of a lower-fat, higher-carbohydrate snack led to a 3.6-point HEI score increase after 6 weeks. In another study, patients who replaced their typical evening snack with 2 oz of pistachios saw nearly a 7-point HEI increase after 12 weeks. And finally, in a recently completed study by Dr. Petersen and colleagues, patients who replaced their usual snacks with pecans saw an 11-point HEI increase after 12 weeks.

According to Dr. Petersen, these findings have relevance for "Food Is Medicine" approaches, in which food-related resources are provided as part of health care. "The benefits of dried fruits and nuts are that they are shelf stable," commented Dr. Petersen. "So they may be a way to improve diet quality as part of these initiatives, with the ultimate goal of improving food and nutrition security and promoting health equity."

INC Awards: Celebrating Excellence Across the Industry

The INC Awards represent the pinnacle of excellence in the nut and dried fruit industry. This year's prizes were presented to winners in several categories at the INC Congress in Vancouver.

GOLDEN NUT AWARD

This year, the Golden Nut Award —the industry's highest honor— went to **PLANTERS®**, reflecting the venerable brand's long track record and commitment to delivering excellence for consumers. The PLANTERS® brand, founded in 1906 in Wilkes-Barre, Pennsylvania, USA, stands as an iconic symbol of American culture. Acquired by Hormel Foods in 2021, the brand has thrived under various corporate stewardships over the past century. Renowned for its vast portfolio of premium nut products, including peanuts, cashews, mixed nuts, trail mixes, seeds and assorted nut blends, the PLANTERS® brand caters to a wide array of consumer tastes and preferences. The PLANTERS® brand appeal lies in its approach to high-quality nuts, innovative product packaging and best-in-class marketing, exemplified by its iconic mascot, Mr. Peanut.

EXCELLENCE IN RESEARCH AWARD

The Excellence in Research Award was presented to **Prof. Cesarettin Alasalvar**, Senior Chief Researcher at TÜBİTAK Marmara Research Center in Türkiye. His research focuses on the development and health benefits of functional foods and nutraceuticals. He has been active in the Institute of Food Technologists (IFT) for many years and has served as a past chair of its Nutraceuticals and Functional Foods Division. He has also served as a past president of the International Society for Nutraceuticals and Functional Foods (ISNFF). He has successfully developed and transferred more than 10 innovative products to the food and pharmaceutical industries in the field of functional foods and nutraceuticals. He has also been very active in the Horizon 2020 and Horizon Europe programs.

EXCELLENCE IN GASTRONOMY AWARD

The Excellence in Gastronomy Award went to **Andrea Carlson**, the Michelin-starred chef and owner of Burdock & Co, Harvest Community Foods and Bar Gobo. For over a decade, she has left a resounding legacy on Vancouver's dining scene. Her commitment to homegrown ingredients and active support of local food systems has led to strong relationships forged with farmers and growers, including previously unknown producers who have now caught the attention of chefs citywide. Born and trained in British Columbia, she studied organic farming and landscape design before making her mark on some of the best restaurants in Vancouver, becoming a driving force behind the city's locavore movement. The connection between food and nature is at the heart of her culinary philosophy.

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EXCELLENCE IN SUSTAINABILITY AWARD – BACK TO THE PLANET

The Excellence in Sustainability Award – Back to the Planet was awarded to **Treehouse California Almonds** for The Almond Project, a five-year study in California's Central Valley focused on implementing and researching a variety of soil health practices. The project is a coalition of farmers, scientists, brands, technical service providers, processors and retailers with a non-profit convener. It was born out of a need to evolve the way orchards are farmed to prioritize soil health, enhance water use efficiency, preserve natural resources, enable ecosystem regeneration, protect farming communities and ensure the livelihood of nutritionally-rich almonds for generations to come, setting a new standard for how marketplace competitors can come together and work towards evolving the industry as a whole.

EXCELLENCE IN SUSTAINABILITY AWARD – BACK TO THE PEOPLE

The Excellence in Sustainability Award – Back to the People was awarded to **LIMBUA**. A German-Kenyan social enterprise, LIMBUA trades and processes organic macadamias, dried mango, avocado oil and coffee from Kenyan smallholders. They work closely with more than 7,000 smallholders in the Kenyan highland at the foot of Mount Kenya. The project creates great value for the nut and dried fruit industry by offering top-quality products that have been traded in a socially responsible manner throughout the entire supply chain, while also protecting nature by preventing land degradation, preserving biodiversity and protecting the climate. LIMBUA covers the supply chain, from the tree nursery to supervision of smallholders on their way towards organic certification, all the way to export and global distribution.

INNOVATION AWARD

The Innovation Award was awarded to **Diamond Foods**. Selected by Congress attendees by popular vote, the winning project was Diamond of California Crunchy Nut Toppers, bite-size pieces of walnuts and pecans that make for a delicious and nutritious addition to salads, baked potatoes and other vegetable side dishes. Crunchy Nut Toppers come in four flavors: Smoky Bacon Walnuts (bacon-free), Garden Ranch Walnuts (dairy-free), Glazed Walnuts and Glazed Pecans. They can be used in place of bacon bits, crispy onions or croutons to add a little extra flavor and crunch.

May 8

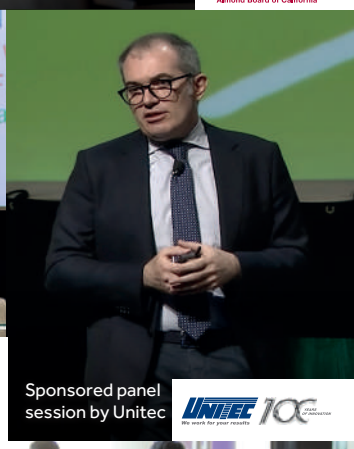
INC Chairman Michael Waring welcomes everyone to the 2024 INC Congress in Vancouver

Congress Co-chairs Ranjeet Wallia and Stephen Meltzer officially open the event

Networking Breakfast and All-Day Coffee sponsored by Almond Board of California

Working Buffet Lunch sponsored by Setton Pistachios of Terra Bella Inc.

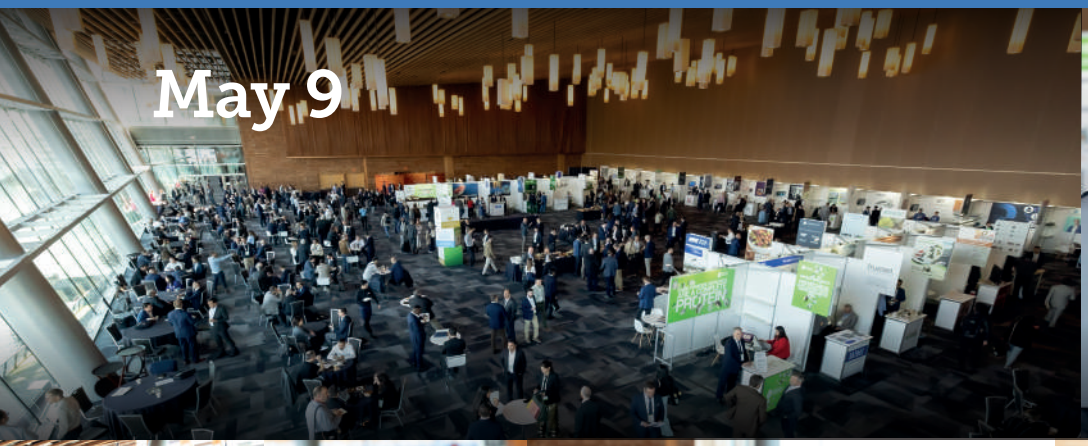
Sponsored panel session by Prosper Cashew



Sponsored panel session by Unitec

Bjoern Pelzer, CEO of Transworld Shipping, sponsor of the Welcome Cocktail

May 9



Networking Breakfast and All-Day Coffee sponsored by MSC Mediterranean Shipping Company

Meeting Area sponsored by Al Jameel International

Working Buffet Lunch sponsored by Royal Nuts

Mike Hohmann, Executive VP and CFO of Wonderful Pistachios & Almonds, sponsor of the Casual Buffet Dinner

May 10

Networking Breakfast and All-Day Coffee sponsored by Touchstone

Working Buffet Lunch sponsored by QiaQia Food

Juan Esteban Rodríguez, President of Chilenut, sponsor of the Gala Dinner

Summary of Meetings in Vancouver

VANCOUVER
INC XLI WORLD NUT AND DRIED FRUIT CONGRESS

The INC committees and working groups held productive in-person meetings during the Congress in Vancouver.

Executive Committee

The Executive Committee reviewed the members of the Ambassadors Committee for ratification by the Board of Trustees, the Foundation's finances and 2024 budget, the status of ongoing projects and potential INC 2026 Congress host cities. They also chose the winners of the 2024 Sustainability Award in both the *Back to the Planet* and *Back to the People* categories, based on the recommendations of the evaluating committee, and discussed priorities for the INC's country outreach program.

Board of Trustees

The Board of Trustees ratified the nominations for the new INC Ambassadors, approved the 2023 end-of-year audited accounts and 2024 budget, and were presented an update on key activities and plans for future congresses. In addition, each committee chairman provided an update on the activities of the several sub-committees.

INC Board of Trustees

Business Integrity Committee

The Business Integrity Committee, chaired by Mr. Antonio Pont Jr. and Mr. Giles Hacking, discussed INC membership acceptance procedures, reviewed applications and addressed attendance of non-members at the INC Congress. The committee also welcomed Ms. Mia Cohen as a new member.

World Forum for Nutrition Research and Dissemination

Chaired by Prof. Jordi Salas-Salvadó, the INC World Forum for Nutrition Research and Dissemination reviewed the past year's activities and plans for the future, with a focus on candidates for the 2025 Award for Excellence in Research and the NUTS 2025 meeting program.

Sustainability, Scientific and Government Affairs Committee

Chaired by Mr. Pino Calcagni, the Sustainability, Scientific and Government Affairs Committee held meetings of its three working groups: Sustainability, Scientific, and International Government and Regulatory Affairs. The groups were briefed on the INC's activities in their respective areas over the past year and discussed activities for the coming year. Topics discussed included sustainability, regulatory affairs, food safety, and INC participation in Codex Alimentarius and UNECE working groups.

Ambassadors Committee

The Ambassadors Committee, chaired by Mr. Vincent Rieckmann, reviewed INC activities in 2023/24 and welcomed newly appointed ambassadors. Some ambassadors presented country reports, highlighting initiatives and marketing campaigns in their countries. The meeting concluded with an open discussion led by the chairman.

Statistics Committee

Chaired by Mr. Roby Danon, the Statistics Committee reviewed the past year's activities, such as the new online statistics database, and future objectives. He underlined how vital it is to collect industry data for the benefit of the sector as a whole, especially to support the relevance of the sector in forums where countries and stakeholders discuss important issues for the industry.

Academic Committee

The Academic Committee, chaired by Mr. Lalo Medina, discussed the 2023/24 INC Academia results and plans for the next year. As in past editions, the feedback from the students was very positive, particularly regarding the on-site program, which this year took place in California's Central Valley and included visits to world-class companies.

Mallorca

42ND INC WORLD NUT AND DRIED FRUIT CONGRESS

MAY 8-10, 2025

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INC On-site Technical Visit 2024

From May 2-5, 2024, the INC hit the road for an unparalleled learning experience in California's Central Valley. A lively group of two dozen students covered more than 400 km as they discovered some of the industry's most renowned organizations.

The program began with a visit to Wonderful Pistachios, where participants toured an orchard and a processing plant and were treated to an informative master class on marketing. The group then proceeded to Sun-Maid Growers of California, where they visited a vineyard and a dried fruit processing facility.

Wonderful Pistachios

Sun-Maid Growers of California

The following day, the group visited an almond hulling and shelling plant at The Hulling Company and were treated to an informative sorting machinery demo by Qcify. They then toured the Almond Board of California's Salida Almond Variety Trial with the University of California Agriculture and Natural Resources and learned about California nut and fruit acreage from Land IQ.

The Hulling Company

Qcify

INC ACADEMIA
EXECUTIVE EDUCATION
FOR THE NUT & DRIED FRUIT INDUSTRY

On the third day, the group headed for Diamond Foods, where they visited a walnut and pecan shelling facility and a food safety and quality laboratory, and Pomona Farming, where they toured an almond orchard that uses regenerative practices. Students were then treated to a dinner presentation by Robert Verloop, CEO of the California Walnut Commission and Board, who spoke about market development activities. Finally, on the fourth day, the group learned about state-of-the-art sorting machinery at a TOMRA facility.

Pomona Farming

TOMRA

The students then went their separate ways, with many continuing on to the INC Congress in Vancouver, where INC Academia alumni had the chance to attend a special networking session and students from the 2023/24 edition of the program received their diplomas.

Students receiving diplomas in Vancouver

INC Multi-Country Dissemination Plan Launches in Latin America

With our dissemination campaigns already reaching millions of young people in China and India, we are excited to announce the launch of a new initiative in Latin America. This dynamic new campaign is poised to inspire and engage millions of young people, spreading the word about nuts and dried fruits across the region.

Nut Tunes Lands in Argentina, Brazil, Chile and Mexico!

At the beginning of 2024, we embarked on a challenging mission to define a campaign for Gen Z in Latin America that would encourage daily nut consumption. Based on the findings from our research study carried out in Argentina, Brazil, Chile and Mexico, we knew that although this generation in Latin America values a healthy lifestyle, nuts and dried fruits are not among their top consumption preferences, especially when it comes to snacking.

We knew that we had to come up with a way to shout about the benefits of nut and dried fruit consumption that was attractive to the Latin American customer. And what better way to attract this generation than through music! Hence our campaign *Nut Tunes: Feed Your Vibe!* Presented at the INC Congress in Vancouver, the campaign has officially launched this July. A series of captivating video capsules created with 3D animation and AI technology, Nut Tunes brings our delicious products to life to sing about their health benefits to consumers. Each video has its own unique character and musical rhythm of Latin beats, featuring Almendruki, an almond and Argentinian trap star; Natty Nuez, a walnut and Chilean reggaeton celeb; Pecana Bonita, a pecan and Mexican *corridos tumbados* enthusiast; and MC Passas, a raisin and Brazilian funk performer. Apart from the four video stars, using AI we have also created a mix of fresh Latin beats and energizing tunes for each of our 16 nuts and dried fruits. The playlist is now available on Spotify (search for "Nutfruit") and the four video capsules are also uploaded to the Nutfruit YouTube channel for further visibility.

Country-Specific Channels

Country-specific targeting is crucial in Latin America. Therefore, tailoring our marketing messages to each of our four target countries is essential to ensure they resonate with local audiences. To achieve this, we have launched specific Instagram, TikTok and Facebook channels for each market. This allows us to curate our content, taking into consideration cultural nuances and language differences unique to each country. For example, the slang and cultural references used in Mexico differ greatly from those in Argentina or Chile, and Brazil's native tongue is Portuguese. Therefore, having separate channels enables us to address these differences effectively.

In addition to the country-specific channels, we have also created generic social media channels for Latin America. These channels aim to captivate audiences in other countries within the region that are not our primary targets. By doing so, we can extend our reach and engage with a broader audience across the entire region. This dual approach of specific and generic channels allows us to balance the need for localized content with the efficiency of broader regional engagement.

nutfruit.ar

nutfruit.br

nutfruit.cl

nutfruit.mx

Content Strategies

To complement the Nut Tunes initiative, we have also created an array of content types to engage and resonate with the audience. Recipes are a significant component. We have created 16 video recipes reflecting the rich culinary traditions of the region to encourage community engagement through shared cooking experiences. Health benefits and nutritional tips are also a valuable part of the strategy. Fun memes and culturally relevant humor also play a crucial role in capturing attention and fostering a sense of community.

In addition to these content types, we will also incorporate influencers to amplify our reach and credibility. Influencers with a lifestyle focus will showcase how they integrate healthy eating habits into their daily routines and our collaborations with influential nutritionists will provide authoritative insights and personalized tips, further educating the audience on the importance of nutrition and healthy living.

China: One Small Change = A Totally Different Day

Our campaign in China this year focuses on self-discovery, a key trend among Gen Z in China. Therefore, in May, the first of four hero videos was launched, sharing the life of influencer Ahui, who imparts his wisdom about nut and dried fruit consumption throughout his village and shows Gen Z consumers how to make the delicious traditional Chinese snack of toasted nuts: 炒货 (chǎohuò). Since its launch, the video has already gained 700K views, complementing the total reach of 11 million for the 2024 campaign. As in previous years, the campaign is running across key social networks WeChat, Weibo and Douyin (TikTok). And this year, we have also incorporated a new social channel, Xiaohongshu, which is popular among Gen Z in China.

India: It's Time to Make a Switch

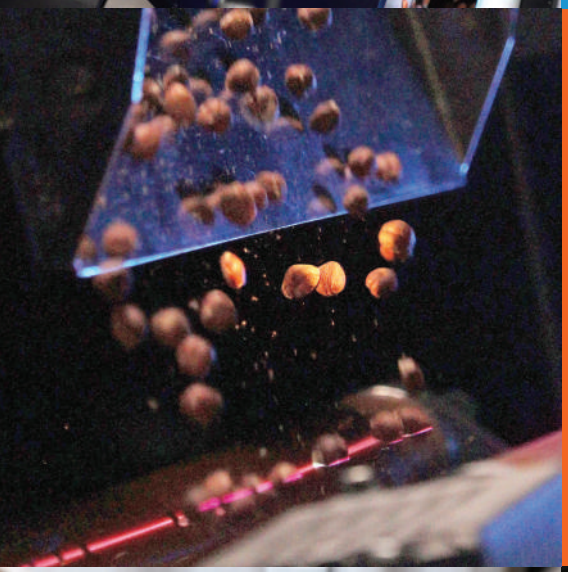
Our campaign *It's Time to Make a Switch* calls for India's Gen Z to make a switch, switch off, and take care of their health and well-being. Over the past few months, all social media posts have been dedicated to encouraging Gen Z to make this switch, gaining a reach of 9 million to date in 2024. In July, we will launch the main video for the campaign, which will share tips on how Gen Z can make a switch and add nuts and dried fruits into their lives. As part of this year's social media strategy, we have also created an Instagram filter that will randomly share quick and easy tips on how to add nuts and dried fruits into a daily diet. To effectively market the tool, we will leverage influencer partnerships among key Indian content creators.

Nutfruit.org: A Country-Specific Website

To complement our multi-country dissemination activity, we have been diligently adapting the Nutfruit consumer website for each of our target countries. The process has now been finalized and we're pleased to announce that Nutfruit.org is now published in each of our target countries: Brazil, Argentina, Mexico, Chile, China and India.

TOMRA

TOMRA 5C



Every Piece of Nut Counts™

Maximize food safety and ensure the removal of allergens, aflatoxin, foreign material, and insect damage while **minimizing food loss.**

Learn more
www.tomra.com/food

INC International Exhibitions

The INC continues to have an active presence at high-profile international exhibitions across the globe. On the heels of a successful Gulfood tradeshow in February, the INC participated at the 17th Food Exhibition for China Nuts and Dried Fruits in April and is looking ahead to the biggest INC Pavilion ever at SIAL in October.

17th Food Exhibition for China Nuts and Dried Fruits

In April 2024, the INC participated at the 17th Food Exhibition for China Nuts and Dried Fruits in Hefei, China. Hosted by the Specialized Committee for Nuts and Dried Fruits of the China National Food Industry Association, the event opened with a conference on April 17 that brought together around 300 industry professionals for a full day of sessions. INC Chairman Michael Waring participated remotely via a video address in which he highlighted the INC's global reach and activities and Mike Hohmann, member of the INC Board of Trustees, gave a global statistical review reflecting on the size and future of the industry.

On April 18 and 19, the exhibition brought together over 2,000 exhibitors and 100,000 visitors to showcase the latest innovations in product development and machine technology. Throughout the exhibition, activity abounded at the INC stand, as ties were forged in the Chinese market and contacts were made with potential members. The INC also held meetings with both Three Squirrels and ChaCha to further our online collaboration as part of our Multi-Country Dissemination Plan and explore new ways to spread the health benefits of nut and dried fruit consumption in China.

Photo: Specialized Committee for Nuts and Dried Fruits of the China National Food Industry Association

SIAL Paris 2024

The INC Pavilion will be back and better than ever at SIAL Paris from October 19-23, 2024. Co-exhibitors will have the opportunity to showcase their brands to over 285,000 visitors from 200 countries and establish enduring global connections.

Situated in a prime location within the exhibition hall, the INC Pavilion will consist of three islands, offering numerous opportunities to boost brand exposure and do business with the industry's top movers and shakers, thanks to the participation of co-exhibitors from more than 15 different countries.

All-day coffee will be served in the Pavilion's large social area, which will provide an unparalleled space for industry players to rub elbows. Co-exhibitors will also be served lunch every day throughout the event, and the popular INC Cocktail event on Sunday evening, sponsored by Orienco France, will provide a chance to build professional relationships in a relaxed setting. Co-exhibitors will also enjoy exclusive brand promotion through INC communications leading up to the event.

To learn more about becoming a co-exhibitor, visit:
https://inc.nutfruit.org/pavilions/sial-paris/

SIAL PARIS IN NUMBERS

INC PAVILION	EXHIBITION
40 booths	285,000 visitors
15+ countries	7,500 exhibitors
472 m² pavilion space	200 countries

Thank you to all of our co-exhibitors for being a part of SIAL Paris 2024!

INC Leads Group Drafting UN Food Loss Prevention Guide

The INC is leading a group responsible for producing a code of good practice on reducing food loss in nut and dried fruit value chains. At a meeting in May, UNECE congratulated the group on its work and reviewed agricultural quality standards and explanatory materials.

In 2023, the United Nations Economic Commission for Europe (UNECE) Specialized Section on Standardization of Dry and Dried Produce appointed the INC as leader of an ad-hoc drafting group responsible for developing a code of good practice on reducing food loss and food waste in nut and dried fruit value chains. In early 2024, the INC developed a draft of the first chapter, which focuses on primary producers. The drafting group, which included members representing France, the United States and the Central Asian Working Group to Promote Exports of Agricultural Produce (CAWG), held three meetings between February and April to further refine the draft.

At its annual meeting, held in Geneva, Switzerland, from May 15-17, the Specialized Section provided comments and suggestions on the draft and congratulated the INC-led drafting group on its progress to date. The group will continue its work in the coming year and submit an expanded draft to the next session of the Specialized Section.

During the meeting, the Specialized Section also agreed to amend the Agriculture Quality Standards for almond kernels, blanched almond kernels and in-shell almonds; re-attach an annex to the standard for dates; and amend the definition of produce, remove a footnote on how tolerances are assessed in Türkiye from the table on tolerances, and keep crop year as mandatory for "Extra" Class and Class I and optional for Class II in the standard for in-shell walnuts. The Specialized Section also reviewed draft explanatory materials for cashew kernels, almond kernels, in-shell peanuts and peanut kernels. All agreed texts and materials will be submitted to the Working Party on Agricultural Quality Standards for adoption at its November 2024 session.

Goldens | Crimson | SA sultana | Thompsons | Midnight | Currants | Organic Thompson

South Africa is probably the best place in the world to produce raisins

Around 90% of production takes place in the Orange River region of the Northern Cape in the depths of the Kalahari Desert. The optimal climate along with ample supply of water, land and labour, creates ideal conditions to grow and produce the highest quality and tastiest raisins, with world-leading shelf-life.

The majority of fruit is either completely residue free or well below the legal MRL requirements. The very hot, dry climate reduces the risk of disease and pests and with world-class agronomy usually no artificial treatments are required.

South Africa supplies all major raisin product categories, including: Thompsons, Organic Thompsons, Goldens, Currants, SA Sultanas, Midnights and Crimsons.

BEAUTIFUL COUNTRY BEAUTIFUL RAISINS

www.raisinsa.co.za Raisins South Africa

Naturally Sundried Raisins South Africa

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

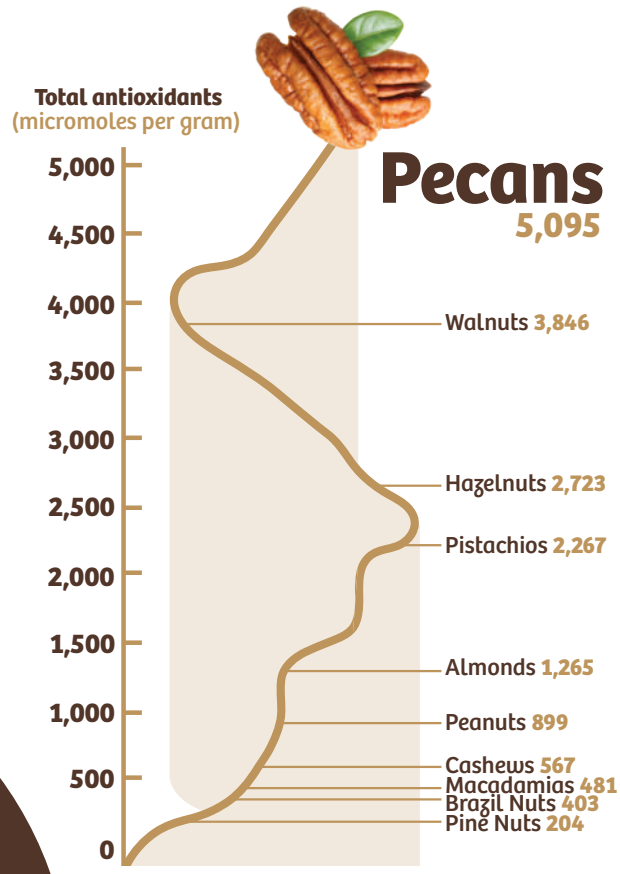
- **Oil roast & Dry roast capabilities**
- **Confectionary capabilities**

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!



Contact us

Jose Miguel Medina
Commercial Director
+1 678 520 6849
jmedina@lanogalera.biz

Global Statistical Review

Crop Forecast Report

July 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 May and June 2024.

USA. For this incoming season, an estimated 3 B lbs. (1.4 million metric tons) was expected, according to the USDA NASS subjective forecast published on May 10, supported by a strong bloom. The objective measurement was scheduled for July 10. Quality this year presents some challenges, with damage rates increasing from 1.7% to 4.2%.

Total planted acreage peaked in 2021 at 1.65 million acres (667,731 hectares) but has since declined by 8% to an estimated 1.5 M acres (614,313 ha) in 2024. This decline is partly due to decreased new plantings, mainly influenced by groundwater legislation (SGMA) and economic challenges for growers, including increased input and labor costs.

Total shipments reached a high of 2.9 B lbs. (1.3 M MT) during 2020/21, a record production year, aided by favorable pricing and increased demand during the COVID-19 pandemic. However, high inflation, global shipping crises and geopolitical tensions have hindered shipments in the following years. Despite this, year-to-date total shipments through May were up 5% from last year, at 2.3 B lbs. (1.05 M MT), approaching the 2021 record. Export shipments YTD (1.7 B lbs./768,131 MT) surpassed the previous season by 6%. Strong international shipments were driven particularly by India's in-shell imports, which amounted to 350 M lbs. (158,587 MT), an increment of 21% from 2022/23. India continues to show strong demand growth and is expected to increase by 8% annually, reaching around 550 M lbs. (250,000 MT), driven by cultural consumption patterns and a growing middle class.

Domestic demand had slightly declined in recent years due to high food inflation and changing consumer habits, although this season the trend seemed to be reversing, with YTD domestic shipments at 613 M lbs. (278,026 MT), 2% up from the previous season.

The total shipment pace through May was setting the industry up to reach a carryout of less than 500 M lbs. (227,000 MT).

Australia. The Australian almond industry is facing significant challenges and changes. Growth in hectares has stabilized, with new plantings slowing. In 2024/25, production rebounded to 160,000 MT after weather challenges in the previous year. Dry harvest conditions led to improved quality and yields. Young orchards showed particularly good yields.

However, challenges remain with pollination and water management. The varroa mite incursion has complicated pollination, with costs rising by 65% in recent years. With less than 4% of acreage being self-fertile, reliance on bee pollination exacerbates this issue. Federal water buyback legislation is anticipated to impact water availability for the industry.

Orchards planted between 2004-2008 are nearing the end of their productive life, requiring significant replanting efforts. Monterey trees face disease issues, leading to removals and impacting future production.

Despite favorable trade agreements with China and India, growers face economic challenges. Rising costs for water, power, labor and pollination further strain profitability, with returns down 35% from 2019 levels. The industry needs to navigate these headwinds by stabilizing prices and managing resources efficiently.

Spain. Planted area has experienced notable growth, particularly in irrigated areas. However, in recent years, this growth has plateaued. Production levels have been irregular due to factors like water availability and adverse weather conditions (e.g. frost, insufficient chilling hours and unseasonal rains). Despite these challenges, expectations are upbeat, with an estimated 2024 crop of just over 125,000 MT (as announced by AEOFRUSE and other national organizations) and an optimistic 2025 projection of over 170,000 MT.

The 2024 forecast is based on 552,748 bearing ha, including over 14,000 irrigated ha that have come into production this year. Spring rains and lack of frost events have positively impacted the 2024 crop.

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 (M lbs)	800	2,440	**3,240**	450	450	3,000	**3,450**	600
USA (MT)	363,200	1,121,380	**1,484,580**	204,300	204,300	1,362,000	**1,566,300**	272,400
AUSTRALIA	30,000	103,381	**133,381**	10,000	10,000	160,000	**170,000**	20,000
SPAIN	15,337	100,000	**115,337**	21,914	21,914	125,000	**146,914**	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	20,000	**20,000**	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	16,000	**16,000**	0
WORLD TOTAL	**414,037**	**1,477,997**	**1,892,034**	**243,414**	**243,414**	**1,817,083**	**2,060,497**	**329,263**
WORLD CONSUMPTION (Supply-End. Stock)				**1,648,620**				

Sources 2023/24: Almond Board of California, Almond Board of Australia, AEOFRUSE, Portugal Nuts, Chilean Almond Board, Greek Nuts & Fruits Trade Association and other INC sources. US 2023/24 ending stock is an INC estimate. Sources 2024/25: USDA, Almond Board of Australia, AEOFRUSE, Aegean Exporters Association, 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 May and June 2024.

As highlighted during the INC Congress in May, Brazil nut production is challenging to quantify as the nuts are collected from the Amazon rainforest. Official data is scarce and estimates rely heavily on export figures. Most Brazil nuts collected in Bolivia and Peru are destined for export markets, while Brazil itself consumes some of its production domestically. The crop size is also influenced by pricing, collection practices and logistical challenges, hence forecasting its size is complex. Harvest typically begins around November to December. Exports continue throughout the year, with the last shipments usually occurring in January and February.

Last year's forecast for Bolivia accurately predicted a smaller crop size due to heavy stocks in destination markets. The season began with very low prices, providing little incentive to collect large volumes from the forest. In contrast, for the current year, beginning stocks were pre-contracted and pre-sold, and exports, at the time of reporting, have been strong. Consequently, a larger crop size, with increased collection and exportation, was forecasted.

Significant growth from Peru is not anticipated in the forecast. This is primarily due to legal restrictions preventing in-shell materials from Bolivia from being imported, cracked and re-exported.

Last season, Brazil required the import of some containers from Bolivia to meet local demand. Due to a shortage in cashew nut availability, supermarkets sourced Brazil nuts as a direct alternative. This surge in demand occurred towards the end of the crop season, when most processors had already sold out, consequently driving raw material prices up. The remaining higher ending stock is attributed to logistical problems: Porto Vila do Conde faced significant challenges at the end of the year due to an overload of cargo, as the Amazon River was too low for navigation, causing delays in shipping containers out of Brazil. This season, a similar crop was expected.

Globally, the inventory for this year has been significantly affected by last year's market conditions. Demand was limited during Q1 and Q2 and surged only in Q3 and Q4, when most Brazil nuts had already been collected. Despite favorable prices, additional nuts could not be sourced and the collected nuts were sold quickly. On top of that, as previously mentioned, a significant portion of Bolivian Brazil nuts were diverted to Brazil to meet domestic demand. As a result, the stock available for Europe and USA at the beginning of this year was limited. This scarcity meant that when the new crop season began, demand for the available raw material surged. However, buyers were hesitant to purchase large volumes due to high prices. Logistical challenges and stock availability issues have persisted throughout the year across all destination markets due to these factors.

At the time of reporting, this season's most significant issue was stock levels globally. It was initially anticipated that stock levels would improve as factories commenced operations early this year. Nonetheless, despite early processing and exports starting in February, subsequent delays occurred. Shipments faced interruptions, particularly in Chile due to strikes, leading to an extended delivery timeline. As a result, the expected improvement in global stock levels did not materialize. The critical question revolved around the backlog from March and April shipments and its impact on stock levels and pricing from then on.

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 May and June 2024.

The Northern Hemisphere harvest was still ongoing or just finished at the time of writing this report. Therefore, the 2024/25 forecasts presented herein are preliminary and subject to further update as the season progresses, and should be read as such.

In general, crops from most producing origins are forecasted to follow a downward trend. An exception is observed in Cambodia, where a significant inflow of the first crop has been recorded, leading to an estimated crop yield exceeding that of last year. In other regions, crop yields are either comparable to or lower than previous years.

West Africa. At the time of reporting, and following many seasons of sustained growth, the West African crops were anticipated to be down in 2024/25. Crop receipts through May in Côte d'Ivoire indicated a smaller harvest; and the government announced a ban on exporting raw cashew nuts. The length and extent of this ban was still unknown at the time of this report.

Cambodia. Crop 2024/25 was expected to improve compared to last season, largely due to the expansion of new plantations. Cambodia has seen a significant increase in its exports to Vietnam, rising by about 34% in Q1 2024.

India. Temperatures for the growing season 2024/25 have been higher by approximately three to four degrees Celsius across the producing regions. The first crops have not fared well, especially in Kerala and Goa, as reported by government agencies. Thus, the crop was expected to yield less compared to the previous year. The perception of a reduced crop has led to product stocking, as farmers and traders anticipate higher prices.

Viet Nam. The effects of El Niño resulted in extremely hot and dry weather conditions. April witnessed the hottest temperatures in the past 44 years. The intense heat led to the drying up of flowers and, subsequently, a decline in yields. At the time of reporting, the 2024/25 crop was forecasted 17% down from 2023/24, harvest was finished and the crop was being processed or used to fulfill earlier commitments. Imports of raw cashew nuts from Cambodia were increased to cover the West African shortage.

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	680,000	680,000	n/a	n/a	830,000	830,000	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	250,000	250,000	n/a
CÔTE D'IVOIRE	n/a	1,100,000	1,100,000	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
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
GHANA	n/a	250,000	250,000	n/a	n/a	210,000	210,000	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
TOGO	n/a	120,000	120,000	n/a	n/a	80,000	80,000	n/a
SENEGAL	n/a	100,000	100,000	n/a	n/a	85,000	85,000	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**	**2,815,000**	**2,815,000**	**n/a**	**n/a**	**2,445,000**	**2,445,000**	**n/a**
Subtotal Northern Hemisphere	**n/a**	**4,560,000**	**4,560,000**	**n/a**	**n/a**	**4,140,000**	**4,140,000**	**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	116,800	116,800	n/a	n/a	132,800	132,800	n/a
INDONESIA	n/a	90,000	90,000	n/a	n/a	90,000	90,000	n/a
Subtotal Southern Hemisphere	**n/a**	**556,800**	**556,800**	**n/a**	**n/a**	**572,800**	**572,800**	**n/a**
OTHERS	n/a	56,700	56,700	n/a	n/a	56,700	56,700	n/a
WORLD TOTAL	**n/a**	**5,173,500**	**5,173,500**	**n/a**	**n/a**	**4,769,500**	**4,769,500**	**n/a**
WORLD CONSUMPTION (Supply-End. Stock)				**5,173,500**				

*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 May and June 2024.

Türkiye. According to the Black Sea Hazelnut Exporters Association, based on flower and fruit counting, and with no frost events registered, the 2024/25 crop was, at the time of reporting, preliminarily forecasted at 785,000 metric tons (in-shell basis). It was yet to be seen how the mild winter temperatures and the stink bug would impact the final outcome.

Total shipments for the 2023/24 season were expected to end up at around 300,000 MT, and forecasted at 320,000 MT for 2024/25, with average domestic consumption levels. There was some concern about how high cocoa prices could affect hazelnut demand in the confectionery industry.

Italy. Early May estimates projected a crop of 139,400 MT based on 90,000 hectares. Conditions have been favorable with adequate chilling hours, excellent autumn rainfall and forecasted rainfall to support nut filling. A significant stink bug infestation early in the season raised concerns.

Over the past nine years, hazelnut cultivation has expanded by 30%, with new plantations adopting modern farming practices and irrigation. This trend suggests that Italy could soon reach a production level of 200,000 MT.

USA. Oregon experienced a mild winter with good pollination conditions and good spring rains followed by favorable weather. Assuming no unforeseen weather events, industry consensus predicted, at the time of this report, a crop of around 87,500 MT. The downward trend in carry-in was expected to continue. However, the quality and sizing of the crop remained uncertain.

Chile. Due to a mild spring, which delayed maturation, the 2024 harvest started two to three weeks late, overlapping with fall rains. Owing to the slow pace and wet conditions during harvesting, the projected crop was, at the time of reporting, reviewed down to 60,800 MT from the initial 68,800 MT.

With around 3,000 ha planted yearly, production is projected to surpass 100,000 MT by 2028. Currently, 98% of the crop is cracked and sold as kernels, focusing on sizes 11-13 for industrial use and 13-15 for snacking.

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	139,400	**141,400**	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	35,000	**35,000**	0
WORLD TOTAL	**235,600**	**1,122,600**	**1,358,200**	**152,500**	**152,500**	**1,336,200**	**1,488,700**	**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	63,400	**64,310**	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	15,100	**15,100**	0
WORLD TOTAL	**116,185**	**523,200**	**639,385**	**74,635**	**74,635**	**626,660**	**701,295**	**80,985**
CONSUMPTION (Supply-End. Stock)				**564,750**				

Sources: INC industry sources, Black Sea Hazelnut Exporters Association, China Chamber of Commerce for Import and Export of Foodstuffs, Georgian Hazelnut Growers Association, and AEOFRUSE. 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 May and June 2024.

South Africa. The 2024 harvest began in early May, a couple of weeks later than usual, due to weather issues. At the time of reporting, the crop was forecasted at 92,000 metric tons in-shell, up 15% from 2023, owing to good weather conditions and new plantings coming into production. Good quality was expected.

Australia. The Australian Macadamia Society (AMS) has revised the 2024 macadamia crop forecast down to 50,830 MT in-shell at 3.5% moisture, mainly due to adverse weather conditions. The 2024 harvest season has been challenging with prolonged heat and then extended wet weather, leading to yield losses across key growing regions. Despite the 9% reduction from earlier projections, the revised forecast still anticipates a crop 5% larger than the previous year, with overall quality looking good. The AMS will review the crop forecast again in September, with the final 2024 Australian macadamia crop figure to be announced in early December.

China. Good flowering was observed throughout the producing regions. Yunnan experienced dry weather, likely reducing its 2024 crop to 57,000 MT. Guangxi's yield may drop to 10,000 MT due to a hailstorm and Guangdong was expected to produce 2,000 MT, totaling around 69,000 MT.

Kenya. The 2024 crop is forecasted 8% up from 2023, although early May flooding may affect the final outcome. Growth is driven by new plantings coming into production. A regulatory change allowing NIS exports in 2024 resulted in 45-50% of the crop being exported as NIS. The regulation will be reviewed by the government in November.

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	92,000	**92,000**	n/r
CHINA	n/r	67,900	**67,900**	n/r	n/r	68,500	**68,500**	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
GUATEMALA	n/r	14,500	**14,500**	n/r	n/r	15,000	**15,000**	n/r
MALAWI	n/r	12,540	**12,540**	n/r	n/r	12,000	**12,000**	n/r
VIET NAM	n/r	9,000	**9,000**	n/r	n/r	10,000	**10,000**	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**	**334,030**	**334,030**	**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	29,400	**29,400**	n/r
CHINA	n/r	16,900	**16,900**	n/r	n/r	17,120	**17,120**	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
GUATEMALA	n/r	2,850	**2,850**	n/r	n/r	3,000	**3,000**	n/r
MALAWI	n/r	3,115	**3,115**	n/r	n/r	3,000	**3,000**	n/r
VIET NAM	n/r	2,700	**2,700**	n/r	n/r	3,000	**3,000**	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**	**90,520**	**90,520**	**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, Malawi Macadamia Association, Brazilian Macadamia Association and other INC sources. Reported at 3.5% nut-in-shell moisture content. n/r: not reported or not relevant.

Pecans

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

The information contained herein was prepared between May and June 2024.

Mexico. At the time of reporting, production in 2024/25 was expected to remain stagnant or slightly below the prior season, owing to record high temperatures and water scarcity. On top of that, owing to increasing growing costs, small to medium growers are struggling to break even, making the prospect of planting unlikely.

USA. The 2024/25 forecast for the crop, as it began to develop in early May, was expected to be around 123,000 metric tons (in-shell basis), similar to the previous season's crop. While some new trees have started to produce, there have been no new plantations and overall production was expected to remain steady. This is due to current market challenges such as low prices, high costs and inflation.

According to the American Pecan Council, exports to China through April 2024 have been higher than usual, with approximately 19,200 MT (in-shell basis) shipped from USA. Consequently, US inventory levels are very low, reaching a record low in the hands of growers.

Tariffs, especially in China, significantly affect pricing. However, the recent reduction in tariffs in India from 100% to 30% presents an opportunity for increased pecan consumption and growth in the US pecan industry.

South Africa. Harvesting began in early May and was in full swing by mid-June. The 2024/25 crop forecast was estimated at around 27,500 MT. The quality of the crop appeared to be good and, for the bulk of the crop (23,000 MT), a kernel recovery of over 55% was expected. Of the remaining 4,500 MT, 50% was anticipated to be cracked in South Africa and 50% to be exported and cracked in China.

Pecan orchards are widely spread across South Africa, with the largest concentration, about 80% of production, in the Free State and Northern Cape provinces. Satellite mapping is being used to estimate the hectares planted, estimated at over 55,000 ha. Although the industry keeps growing, rising input costs and lower prices in recent years have reduced new plantings.

Currency pressure and inflation pose additional challenges, with high labor and electricity costs impacting farms, despite the weak rand benefiting dollar sales.

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
MEXICO	0	143,250	**143,250**	2,000	2,000	138,000	**140,000**	2,000
USA	66,355	139,912	**206,267**	56,452	56,452	123,451	**179,903**	54,064
SOUTH AFRICA	1,300	23,000	**24,300**	700	700	27,500	**28,200**	1,000
CHINA	0	6,000	**6,000**	50	50	6,700	**6,750**	50
ARGENTINA	0	3,000	**3,000**	0	0	3,700	**3,700**	0
BRAZIL	0	4,500	**4,500**	0	0	3,500	**3,500**	0
AUSTRALIA	0	2,400	**2,400**	0	0	3,000	**3,000**	0
OTHERS	0	3,600	**3,600**	0	0	3,800	**3,800**	0
WORLD TOTAL	**67,655**	**325,662**	**393,317**	**59,202**	**59,202**	**309,651**	**368,853**	**57,114**
WORLD CONSUMPTION (Supply-End. Stock)				**334,115**				

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
MEXICO	0	71,625	**71,625**	1,000	1,000	69,000	**70,000**	1,000
USA	33,178	69,956	**103,134**	28,226	28,226	61,725	**89,951**	27,032
SOUTH AFRICA	650	11,500	**12,150**	350	350	14,900	**15,250**	550
CHINA	0	3,000	**3,000**	25	25	3,350	**3,375**	25
ARGENTINA	0	1,500	**1,500**	0	0	1,850	**1,850**	0
BRAZIL	0	2,200	**2,200**	0	0	1,750	**1,750**	0
AUSTRALIA	0	1,250	**1,250**	0	0	1,560	**1,560**	0
OTHERS	0	1,800	**1,800**	0	0	1,900	**1,900**	0
WORLD TOTAL	**33,828**	**162,831**	**196,659**	**29,601**	**29,601**	**156,035**	**185,636**	**28,607**
WORLD CONSUMPTION (Supply-End. Stock)				**167,058**				

Sources 2023/24: USDA, South African Pecan Nut Producers Association, Brazilian Associations of Nuts and Dried Fruits, Argentine Pecan Committee and other INC sources. Sources 2024/25: 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. Disclaimer: Due to the fact that a good portion of the US pecan orchards start to foliate by mid-April, a subjective estimate of the 2024 crop is not possible. However, for continuity purposes, the 2024/2025 estimates, for both crop size and ending stock, have been estimated based on historical averages.

Pine Nuts

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

The information contained herein was prepared between May and June 2024.

China. Last year, there was a significant carryover stock, leading to low prices in August and September. However, as the crop was smaller than expected, and due to local demand for the Mid-Autumn Festival and Chinese New Year, prices increased until February 2024. With demand already fulfilled, prices began to decrease again, and the inventory remained small. At the time of this report, a bumper crop of *Pinus koraiensis* (red or Korean pine) was expected for 2024/25.

Russia. Last season, no *P. koraiensis* cones were present on the trees, resulting in no harvest. In contrast, a big crop of *P. sibirica* (Siberian pine or cedar) was expected. However, heavy rains in August caused many cones to fall prematurely, leading to a threefold crop reduction. At the time of this report, the 2024/25 forecast for Siberian pine nuts remained uncertain, with a poor to medium harvest expected. Korean pine trees were full of cones, suggesting a good crop. Export restrictions imposed by the government on *P. koraiensis* were expected to impact the market, as local consumption cannot absorb such a large harvest.

Mediterranean. The low price of pine nuts (€33/kg as of mid-June) does not cover the cost of collection, risking that many collectors will not proceed with harvesting.

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	80,000	**109,500**	n/a
RUSSIA (Siberia)	2,500	6,500	**9,000**	800	800	20,000	**20,800**	n/a
NORTH KOREA	8,000	15,000	**23,000**	2,000	2,000	20,000	**22,000**	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	4,000	**4,500**	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**	**127,100**	**161,200**	**n/a**
MEDITERRANEAN (Pinus pinea)								
TÜRKIYE	830	5,400	**6,230**	510	510	5,300	**5,810**	n/a
PORTUGAL	960	700	**1,660**	310	310	1,500	**1,810**	n/a
SPAIN	790	2,070	**2,860**	250	250	1,500	**1,750**	n/a
ITALY	0	950	**950**	0	0	1,050	**1,050**	n/a
OTHERS	0	360	**360**		0	370	**370**	n/a
SUBTOTAL	**2,580**	**9,480**	**12,060**	**1,070**	**1,070**	**9,720**	**10,790**	**n/a**
WORLD TOTAL	**57,080**	**78,180**	**135,260**	**35,170**	**35,170**	**136,820**	**171,990**	**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	20,000	**27,375**	n/a
RUSSIA (Siberia)	625	1,800	**2,425**	220	220	5,600	**5,820**	n/a
NORTH KOREA	2,000	3,750	**5,750**	500	500	5,000	**5,500**	n/a
AFGHANISTAN	970	2,200	**3,170**	160	160	1,180	**1,340**	n/a
MONGOLIA	125	1,250	**1,375**	125	125	1,000	**1,125**	n/a
PAKISTAN	720	2,150	**2,870**	490	490	410	**900**	n/a
SUBTOTAL	**14,440**	**19,525**	**33,965**	**8,870**	**8,870**	**33,190**	**42,060**	**n/a**
MEDITERRANEAN (Pinus pinea)								
TÜRKIYE	200	1,300	**1,500**	120	120	1,140	**1,260**	n/a
PORTUGAL	170	150	**320**	65	65	320	**385**	n/a
SPAIN	140	400	**540**	48	48	285	**333**	n/a
ITALY	0	190	**190**	0	0	210	**210**	n/a
OTHERS	0	73	**73**	0	0	74	**74**	n/a
SUBTOTAL	**510**	**2,113**	**2,623**	**233**	**233**	**2,029**	**2,262**	**n/a**
WORLD TOTAL	**14,950**	**21,638**	**36,588**	**9,103**	**9,103**	**35,219**	**44,322**	**n/a**
WORLD CONSUMPTION (Supply-End. Stock)				**27,485**				

Sources 2023/24: China Chamber of Commerce for Import and Export of Foodstuffs and other INC sources. Sources 2024/25: China Chamber of Commerce for Import and Export of Foodstuffs, South East Anatolia Exporters Association and other INC sources.

Pistachios

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

The information contained herein was prepared between May and June 2024.

USA. In the 2023/24 crop year, production reached a record high of nearly 1.5 billion pounds (approximately 678,000 metric tons, in-shell basis). Year-to-date total shipments through April 2024 also set a new record, marking a 50% increase compared to the same period the previous year.

While domestic shipments YTD have plateaued, exports have reached a record high, with a 68% increase over the previous year. Notably, international shipments for the first eight months of the selling season exceeded all previous export records. Shipments have been boosted by record demand from China, with a 140% increase from 2022/23. Europe has also seen a significant increase of 77%, largely due to favorable pricing and overall demand. Kernel total shipments keep growing year on year, driven primarily by the domestic market due to new product innovations and convenience.

Carryover is expected to be low this year, around 250 M lbs. (113,500 MT), due to the aforementioned record shipments. The 2024/25 crop is anticipated to be a large "off" year, despite lower chilling hours, which have been adequate for most regions. Blooming was slightly delayed, which might result in a harvest that is one to two weeks late.

Pistachio acreage continues to expand, with an additional 27,450 acres (11,109 hectares) expected to contribute to the industry's growth this year.

Türkiye. The 2023/24 crop came in shorter than expected. Very strong local demand put pressure on prices, which resulted in slightly lower shipments, particularly in exports.

Carry-in for 2023 was 50,000 MT and, at the time of reporting, a record 2024/25 crop was expected, preliminarily forecasted at around 415,500 MT. Nut set appeared to be very good. However, at the time of reporting, hailstorms and summer heat remained a risk. The bigger crop should lead to more reasonable prices, improving export opportunities.

Pistachio acreage has consistently grown by 7% per year for over a decade and continues to expand, suggesting much larger crops in the future. Total planted area is estimated at around 425,000 ha.

Iran. At the time of this report, the 2024/25 crop was preliminarily estimated at 200,000 MT. As reported by the Iran Pistachio Association, season 2023/24 carry-in stood at 20,000 MT and production amounted to 180,000 MT.

Domestic consumption year-to-date through May 2024 was estimated at about 20,000 MT and was anticipated to reach 25,000 MT overall. Export shipments YTD reached 95,000 MT and surpassed expectations, likely due to the devaluation of the Iranian currency. The trend in the following months was uncertain, as exchange rate fluctuations may impact exports. Ending inventory was at 85,000 MT as of May and was projected to end up at around 35,000 MT.

Export channels were primarily focused on CIS countries, the Indian Subcontinent and the Middle East. There appears to be spot demand in these regions, unlike in the Far East and the EU, where market pipelines were already stocked with Californian pistachios from previous months. In the first half of the current marketing year, kernels were in high demand. However, global demand for pistachio kernels has shown signs of easing since late April. Green kernel and pistachio oil have niche markets in the Middle East, particularly in the UAE.

Spain. Production was, at the time of reporting, forecasted to reach 6,500 MT for 2024/25, an 8% increase from 2023/24. Planted area is already estimated at 70,000 ha, a number that continues to grow. These hectares have been planted over the past 7-8 years, with fewer than 10,000 ha currently bearing mature pistachios. The young orchards are entering an exponential growth phase, indicating a significant rise in production in the coming years.

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**	250	250	1,100	**1,350**	150
USA (MT)	74,460	677,830	**752,290**	113,500	113,500	499,400	**612,900**	68,100
TÜRKIYE	95,000	180,000	**275,000**	50,000	50,000	415,500	**465,500**	193,000
IRAN	20,000	180,000	**200,000**	35,000	35,000	200,000	**235,000**	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	6,500	**6,500**	0
AUSTRALIA	0	1,400	**1,400**	0	0	4,600	**4,600**	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	**189,510**	**1,082,330**	**1,271,840**	**198,500**	**198,500**	**1,167,150**	**1,365,650**	**291,400**
WORLD CONSUMPTION (Supply-End. Stock)				**1,073,340**				

Sources: Iran Pistachio Association, European Pistachio Council, 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 May and June 2024.

China. At the time of reporting, weather had been favorable and the 2024/25 crop was forecasted at 1.5 million metric tons (in-shell basis). The final outcome will depend on weather conditions. The crop forecast will be reviewed in early August at the CFNA conference. International shipments reached 302,570 MT (in-shell equivalent) in 2023, up 28% vs. 2022, but the short supply combined with brisk local demand has prevented exports from further increasing in 2024.

USA. According to the California Walnut Board, weather conditions through spring and early summer have been mild and fruit set has been less than last year. As a result, the 2024/25 crop was preliminarily forecasted at 671,000 MT, a 10% drop year over year.

Domestic and export shipments year-to-date through May have been robust. Total in-shell shipments reached 312 million pounds (141,500 MT), up 36% from 2022/23. Exports totaled 302 M lbs. (137,000 MT), up 38%. Shelled shipments increased 16%, amounting to 483 M lbs. (219,100 MT). Exports were 281 M lbs. (127,250 MT), up 21%, and domestic shipments reached 202 M lbs. (91,800 MT), an 11% rise.

Chile. Unfavorable weather led to a 26% decrease in the current crop vs. 2023/24. Nonetheless, quality met market expectations, with satisfactory color and sizes, and a 1-2% reduction in kernel yields. Future volumes are expected to stabilize at around 150,000 MT, depending on weather conditions.

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**	68,050	68,050	671,000	**739,050**	75,000
CHILE	1,900	181,648	**183,548**	542	542	134,576	**135,118**	400
UKRAINE	8,000	78,000	**86,000**	2,000	2,000	87,300	**89,300**	2,600
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
FRANCE	5,000	28,000	**33,000**	0	0	38,000	**38,000**	0
IRAN	0	40,000	**40,000**	0	0	35,000	**35,000**	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**	1,250
MOLDOVA	0	18,100	**18,100**	500	500	20,800	**21,300**	600
ITALY	0	12,850	**12,850**	0	0	18,500	**18,500**	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
GEORGIA	0	8,000	**8,000**	0	0	6,400	**6,400**	0
OTHERS	0	15,000	**15,000**	0	0	10,000	**10,000**	0
WORLD TOTAL	**267,900**	**2,654,098**	**2,921,998**	**133,092**	**133,092**	**2,707,576**	**2,840,668**	**193,050**
WORLD CONSUMPTION (Supply-End. Stock)				**2,788,906**				

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**	29,900	29,900	294,600	**324,500**	32,900
CHILE	884	84,500	**85,384**	252	252	62,600	**62,852**	186
UKRAINE	3,520	31,600	**35,120**	820	820	35,600	**36,420**	1,060
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
FRANCE	2,100	11,800	**13,900**	0	0	16,000	**16,000**	0
IRAN	0	16,400	**16,400**	0	0	14,400	**14,400**	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**	540
MOLDOVA	0	8,000	**8,000**	220	220	8,700	**8,920**	250
ITALY	0	5,800	**5,800**	0	0	8,300	**8,300**	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
GEORGIA	0	3,680	**3,680**	0	0	2,600	**2,600**	0
OTHERS	0	6,400	**6,400**	0	0	4,200	**4,200**	0
WORLD TOTAL	**112,854**	**1,160,450**	**1,273,304**	**57,362**	**57,362**	**1,181,920**	**1,239,282**	**83,466**
WORLD CONSUMPTION (Supply-End. Stock)				**1,215,942**				

Sources: California Walnut Board and Commission, Chilenut 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 May and June 2024.

China. Peanut planting in China decreased by 2% in 2024. Domestic sales in 2023/24 have been weak, leading to an oversupply situation —by early May 2024, a significant amount of inventory remained with the farmers— and lower prices, which discouraged growers from increasing their peanut plantations.

China remains the largest peanut-consuming country, with domestically produced and imported peanuts primarily used for oil crushing. While food consumption of peanuts, including their use in ingredients, bakery products and peanut butter, has slightly increased, it is not significantly large.

According to the General Administration of Customs, in 2023 (January-December), a total of 660,842 metric tons (in-shell plus shelled) were imported from several different origins, including Sudan, Senegal, USA, Argentina, India, Brazil and Viet Nam. Total imports from January to April 2024 added up to 254,843 MT.

China also exports to the international market. Varieties of high-quality in-shell peanuts are exported to Europe, Southeast Asia, Japan and South Korea, among other countries. As per the Customs reports, international shipments totaled 103,965 MT in 2023 and 49,112 MT in 2024 (January-April). However, recent years have seen a reduction in international shipments, with domestic shipments generally ranging between 200,000 and 300,000 MT.

USA. As reported by the USDA NASS, as of June 2, 2024, growers had planted 82% of the intended 2024 peanut acreage nationwide, showing a one percentage point increase from the previous year but lagging behind the five-year average by 1%. Additionally, 63% of the nation's peanut acreage was rated as being in good to excellent condition, representing a decline of 9% compared to the same period last year.

In Georgia, the leading peanut-producing state, farmers had planted 79% of the intended acreage for 2024, which was six percentage points less than the previous year and 8% below the five-year average.

The 2024/25 crop was forecasted at 2.9 million MT, up by 8% from the previous season. Yield was expected to amount to 4.49 MT/hectare, a 7% increase from the 4.19 MT/ha in 2023/24.

Argentina. Argentina had a poor crop for marketing year 2023/24 (2023 southern hemisphere harvest). However, at the time of reporting, the upcoming 2024/25 season looked promising due to favorable growing conditions. The harvest was nearly complete by the beginning of May and Argentina was expected to return to strong export levels in key European markets.

According to the latest report of the Argentine Chamber of Peanuts (CAM), the 2023 crop is estimated at 940,426 MT (in-shell basis), with a yield of 2.53 MT/ha. The 2024 crop is forecasted at 1.4 million MT, up by 51% from the previous season, and yield is expected to be up by 40%, at 3.54 MT/ha.

As discussed at the INC Congress in May, ready-to-use therapeutic foods (RUTF) have expanded over the last few years. Peanuts are an ingredient of RUTF paste, which provides significant benefits for children and adults with severe acute malnutrition in less-developed countries. Currently, the top six exporters in Argentina are involved in producing paste for this application, handling substantial volumes. Between 100,000 to 120,000 MT of paste are produced annually for this program.

Europe. Demand for peanuts in Europe has remained relatively flat during 2023/24, due to inflation and higher prices driven by Argentina's smaller crop. Nonetheless, peanut butter is experiencing a notable increase in popularity. The European market is exploring innovations like coated peanuts and flavored roasted peanuts, aiming to enhance consumption.

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	17,630	**17,915**	130
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	2,672	**3,594**	904	904	2,876	**3,780**	1,035
SENEGAL	577	1,728	**2,305**	540	540	1,700	**2,240**	580
ARGENTINA	70	940	**1,010**	0	0	1,422	**1,422**	0
BRAZIL	35	770	**805**	33	33	900	**933**	37
INDONESIA	102	880	**982**	76	76	840	**916**	85
GHANA	47	600	**647**	47	47	600	**647**	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	10,911	**12,232**	1,037	1,037	11,662	**12,699**	1,139
WORLD TOTAL	**4,029**	**47,770**	**51,799**	**3,772**	**3,772**	**50,020**	**53,792**	**3,921**
WORLD CONSUMPTION (Supply-End. Stock)				**48,027**				

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 May and June 2024.

In the 2023/24 season, global table date production increased by 26% to nearly 1.3 million metric tons, primarily due to improved weather conditions across most producing countries. For the 2024/25 season, production levels were, at the time of reporting, estimated to remain approximately the same or slightly up, at around 1.3 M MT. Global date consumption was forecasted to grow 5-7% annually. Despite limited carryover, the large 2023 crop met high demand from Europe and USA, maintaining the downward price trend. Sub-Saharan countries, especially Nigeria, have become important market hubs.

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	265,000	**365,000**	110,000	110,000	270,000	**380,000**	115,000
EGYPT	5,000	180,000	**185,000**	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	130,000	**145,000**	16,000
IRAQ	2,000	65,000	**67,000**	12,000	12,000	70,000	**82,000**	15,000
MOROCCO	5,000	30,000	**35,000**	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	45,000	**70,000**	30,000
WORLD TOTAL	**209,800**	**1,282,000**	**1,491,800**	**289,800**	**289,800**	**1,294,000**	**1,583,800**	**313,800**
WORLD CONSUMPTION (Supply-End. Stock)				**1,202,000**				

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 May and June 2024.

Türkiye. At the time of reporting, 2024/25 production was preliminarily forecasted at around 120,000 metric tons. Although Türkiye maintained its export supply, the last two years of poor crops impacted prices, and there was a decrease in exports to USA. A similar trend was observed in Europe, with retailers managing price increases by adjusting product mixes. As reported by the Aegean Exporters' Association, exports year-to-date between August 8, 2023, and June 15, 2024, totaled 62,488 MT, down by 17% compared to the same period the last marketing year.

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**	20,000	20,000	120,000	**140,000**	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	800	**800**	0	0	640	**640**	0
OTHERS	0	30,200	**30,200**	0	0	31,400	**31,400**	0
WORLD TOTAL	**7,000**	**172,120**	**179,120**	**20,000**	**20,000**	**206,240**	**226,240**	**10,000**
WORLD CONSUMPTION (Supply-End. Stock)				**159,120**				

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

小红莓 / التوت البري المجفف / सूखे क्रैनबेरी / Arándano rojo / Airelas secas / Canneberge séchée / Keçiyemisi

The information contained herein was prepared between May and June 2024.

Poor cranberry crops in 2021 led to high prices and reduced demand. However, markets have since recovered, with decreasing prices boosting demand. Production was, at the time of reporting, expected to normalize in 2024/25, with market prices stabilizing and possibly increasing as the new crop approaches. Overall, the supply-demand situation remains favorable, with growing interest in using cranberries in new products.

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	144,350	**153,717**	9,500
CANADA	3,890	42,189	**46,079**	3,678	3,678	45,450	**49,128**	3,250
CHILE	557	9,890	**10,447**	320	320	10,340	**10,660**	320
WORLD TOTAL	**14,187**	**183,800**	**197,987**	**13,365**	**13,365**	**200,140**	**213,505**	**13,070**
WORLD CONSUMPTION (Supply-End. Stock)				**184,622**				

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 May and June 2024.

Türkiye. At the time of reporting, improved production was anticipated for 2024/25, according to the Aegean Exporters' Association. Following a 2019 regulation that increased fig acreage by 9.2%, boosted production is expected in the coming years. Total exports year-to-date through June 15 added up to 56,724 metric tons, 7% down from 2022/23. Shipments to USA totaled 13,771 MT, 24% up from 2022/23.

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**	5,000	5,000	80,000	**85,000**	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	8,500	**8,500**	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**	**13,550**	**13,550**	**150,000**	**163,550**	**13,700**
WORLD CONSUMPTION (Supply-End. Stock)				**133,950**				

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 May and June 2024.

USA. Growing conditions during the last two seasons have been favorable and current acreage is deemed appropriate. While economic headwinds continue to pose challenges to producers, the sector remains stable and focused on maintaining and penetrating markets. The 2024 crop appears to be of good quality and average total production.

Chile. At the time of reporting, 2024/25 production was estimated at around 60,000 MT of marketable product. Out of an annual plum crop of 100,000 MT, at least 20% is exported fresh to China, a trend that continues to grow. The remaining fruit is used for prunes, juices, and by-products.

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	70,000	**106,204**	40,000	40,000	65,000	**105,000**	33,000
CHILE	10,000	68,000	**78,000**	14,000	14,000	60,000	**74,000**	14,000
FRANCE	13,500	40,000	**53,500**	23,500	23,500	40,000	**63,500**	23,000
ARGENTINA	3,000	33,000	**36,000**	5,000	5,000	25,000	**30,000**	5,000
SERBIA	1,000	5,000	**6,000**	1,000	1,000	4,800	**5,800**	1,000
AUSTRALIA	0	2,500	**2,500**	0	0	1,500	**1,500**	0
ITALY	500	1,450	**1,950**	0	0	1,500	**1,500**	0
SOUTH AFRICA	0	604	**604**	0	0	750	**750**	0
WORLD TOTAL	**64,204**	**220,554**	**284,758**	**83,500**	**83,500**	**198,550**	**282,050**	**76,000**
ESTIMATED WORLD CONSUMPTION (Supply-End. Stock)				**201,258**				

Sources: California Prune Board, Chile Prunes 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 May and June 2024.

Türkiye. Sultana raisin production for 2023/24 is estimated at 206,346 metric tons, revised down from an initial projection of 300,000 MT due to unfavorable weather conditions. The forecast for the Turkish production volume for the 2024/25 season was made conservatively for two reasons. Firstly, the initial estimations and site assessments, such as bunch counts, were not indicative of a bumper crop. Secondly, season 2024/25 follows a high mildew incidence in 2023/24, and the disease spores remain on the trees and in the soil, ready to emerge under the right conditions. Thus, the 2024/25 production was, at the time of reporting, preliminarily forecasted at 250,000 MT, up by 21% from the previous season, provided weather remains favorable throughout the rest of the season, as well as the harvesting and drying periods.

From 2019/20 to 2022/23, Türkiye saw four consecutive years of good crops and production, as well as substantial carry-ins. More recently, the lower 2023/24 crop, coupled with an anticipated low carryover and increased production costs, has caused market prices to jump significantly, creating uncertainties about future trends. Macroeconomic conditions and currency fluctuations add further complexity. As the season ends and supply tightens, hopes are pinned on the new crop.

According to the Aegean Exporters' Association, international shipments year-to-date between September 1, 2023, and June 15, 2024, totaled 183,768 MT, 12% below the 207,668 MT of the same period in 2022/23. While top markets like the EU (92,964 MT) and the UK (46,391 MT) were down from 2022/23 by 15% and 11%, respectively, shipments to Asia-Pacific (24,811 MT) increased by 24% from the previous year, mainly on account of boosted demand from Australia and Japan.

China. At the time of reporting, the production area for Chinese raisins, Turpan, was currently experiencing temperatures around 48°C. As a result, some leaves and grapes were getting sunburned on the vines. Consequently, this year's crop is expected to be below 180,000 MT.

USA. In the 2023/24 season, the crop was estimated at around 153,000 MT, affected by some quality issues that drove production down. For 2024/25, a production of about 170,000 MT was expected at the time of reporting, marking a steady yield. With many packers likely to run out of the 2023/24 crop by October, creating a tight supply gap, an increase in 2024/25 production is anticipated to normalize supply. Maintaining market presence, especially in the ingredient sector where most of the product is sold, remains a priority despite recent rapid price increases.

South Africa. The 2023/24 harvest has been promising, showing a 59% rise in production in comparison to the previous year. The farmer stock intake stood, at the time of reporting, at 96,200 MT, with around 89,000 MT earmarked for export to major global markets. By May 2024, South Africa's year-to-date exports have increased by 17%. Although winter arrived slightly later than usual, another favorable season in 2024/25 was anticipated.

Chile. Raisin production in Chile was, at the time of reporting, projected to remain between 50,000 and 60,000 MT for both the 2023/24 season and the 2024/25 season. The Chilean industry relies heavily on fresh fruit, which is not performing as well as it did in the past and, consequently, there has been a noticeable decline in planting new orchards. Currently, many orchards are being phased out, contributing to the stagnation in growth.

Argentina. Raisin production ranges from 30,000 to 45,000 MT annually, with outputs heavily influenced by variable climate conditions. This volatility makes it difficult to predict consistent production levels.

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	250,000	**260,000**	10,000
INDIA	0	270,000	**270,000**	15,000	15,000	235,000	**250,000**	12,900
CHINA	20,000	150,000	**170,000**	5,000	5,000	170,000	**175,000**	3,600
USA	59,000	153,000	**212,000**	45,000	45,000	170,000	**215,000**	47,000
IRAN	8,000	150,000	**158,000**	8,000	8,000	170,000	**178,000**	10,000
SOUTH AFRICA	6,000	83,700	**89,700**	0	0	90,000	**90,000**	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	50,000	**53,000**	1,000
ARGENTINA	1,500	30,000	**31,500**	1,500	1,500	40,000	**41,500**	5,000
GREECE	7,000	12,000	**19,000**	0	0	14,000	**14,000**	1,000
AUSTRALIA	450	7,309	**7,759**	200	200	12,300	**12,500**	500
AFGHANISTAN	1,000	15,000	**16,000**	1,000	1,000	12,000	**13,000**	0
OTHERS	0	20,400	**20,400**	0	0	22,500	**22,500**	0
WORLD TOTAL	**182,950**	**1,215,255**	**1,398,205**	**91,700**	**91,700**	**1,298,800**	**1,390,500**	**91,000**
ESTIMATED WORLD CONSUMPTION (Supply-End. Stock)				**1,306,505**				

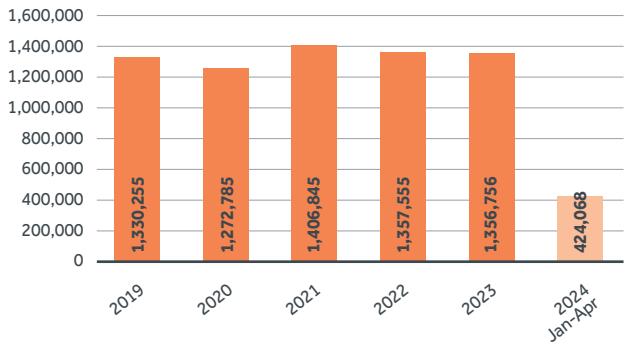
Sources: Aegean Exporters Association, Iran Dried Fruit Exporters Association, Raisins South Africa, Greek Nuts & Fruits Trade Association, Dried Fruits Australia and other INC sources. Season 2023/24 starts as of 2023 harvest; and 2024/2025 as of the 2024 harvest in both hemispheres, except South Africa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

Special Report:

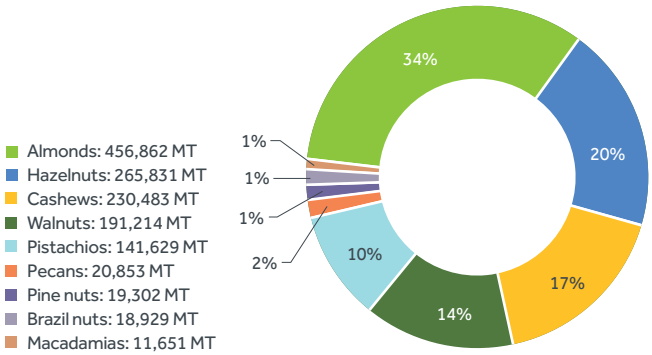
EU+UK Import Market, Tree Nuts

Source: Eurostat, Imports into EU27 + United Kingdom

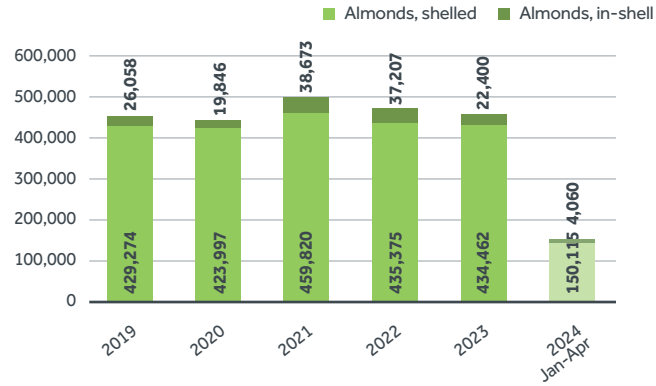
Total Tree Nut Imports (Metric Tons)



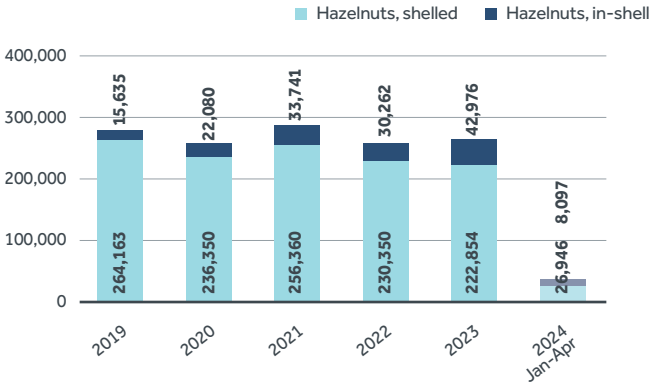
Market Share by Product (2023)



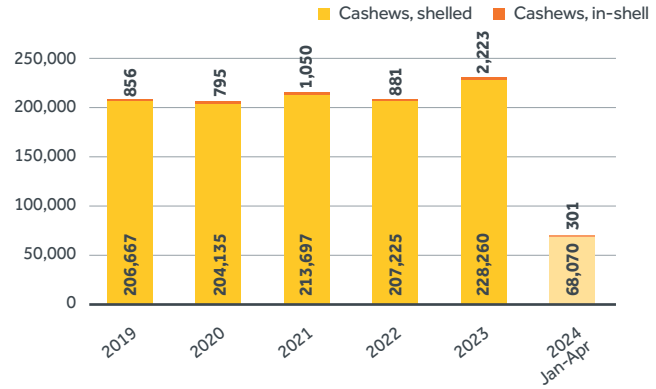
Almond Imports (MT)



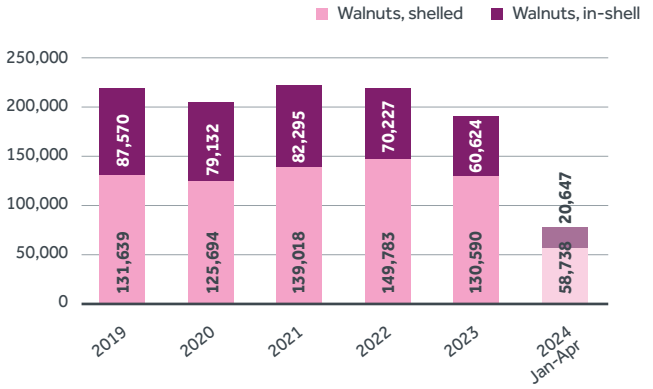
Hazelnut Imports (MT)



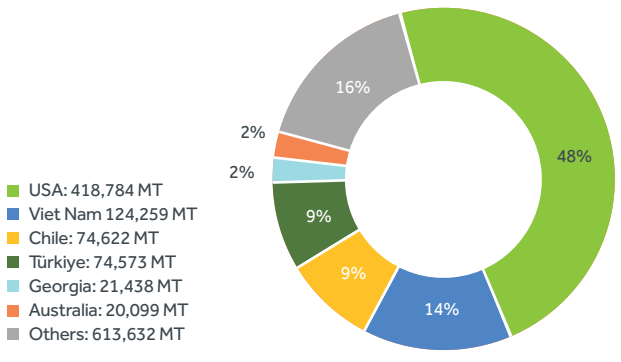
Cashew Imports (MT)



Walnut Imports (MT)

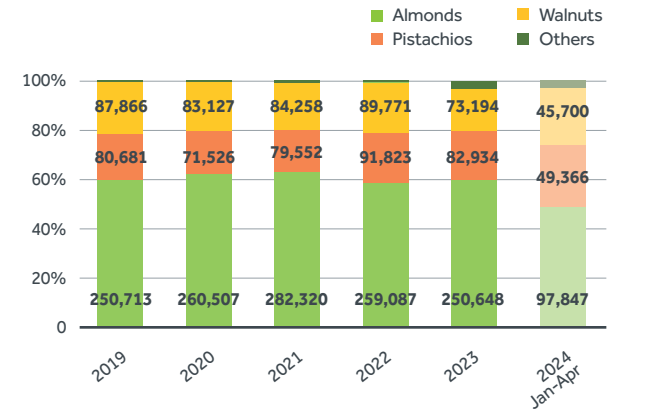


Tree Nuts: Market Share by Country of Origin* (2023)



*Intra-EU trade not included.

Imports from USA: Market Share by Product (MT)

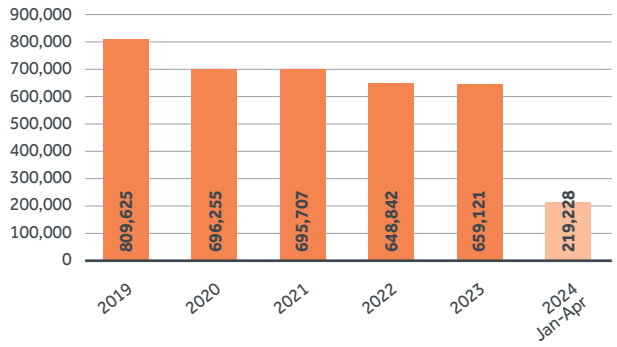


Special Report:

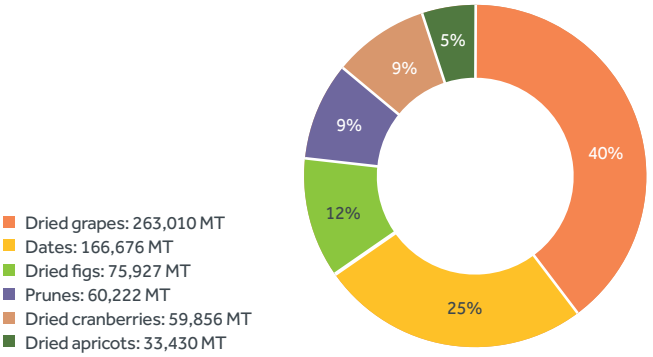
EU+UK Import Market, Dried Fruits

Source: Eurostat, Imports into EU27 + United Kingdom

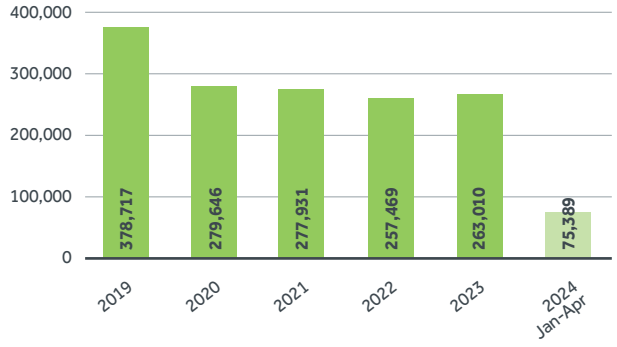
Total Dried Fruit Imports (MT)



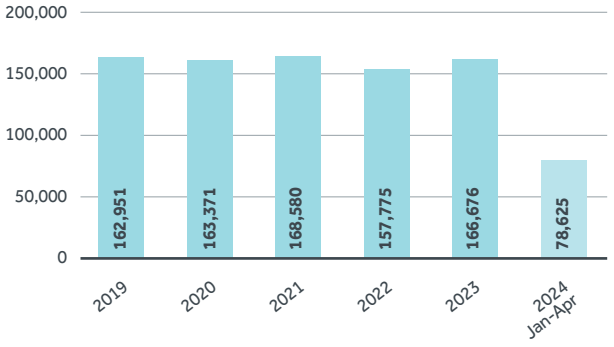
Market Share by Product (2023)



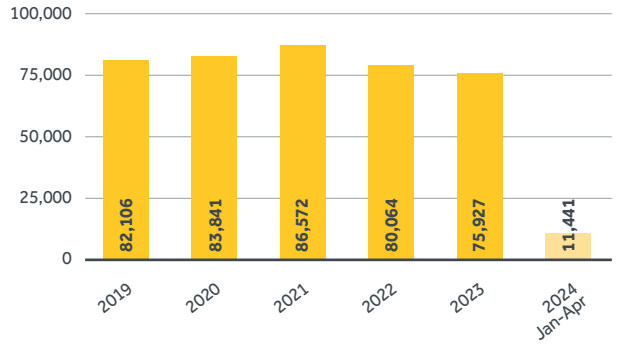
Dried Grape Imports (MT)



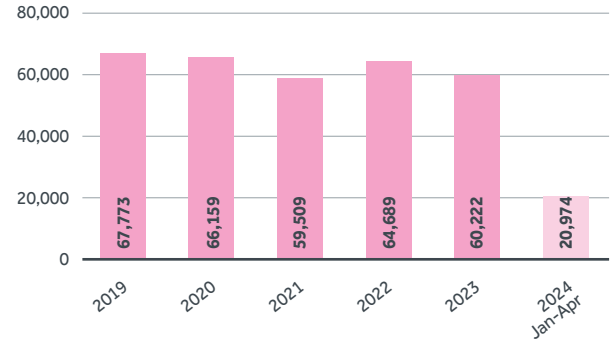
Date Imports (MT)



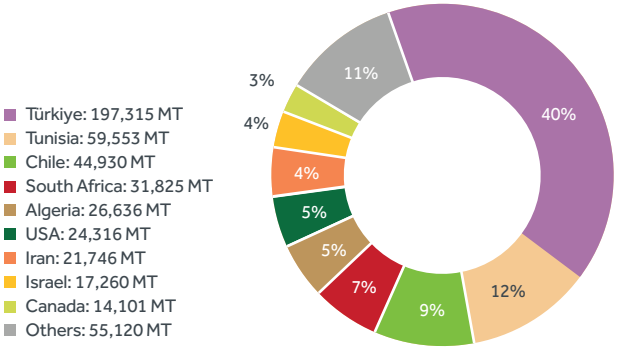
Dried Fig Imports (MT)



Prune Imports (MT)

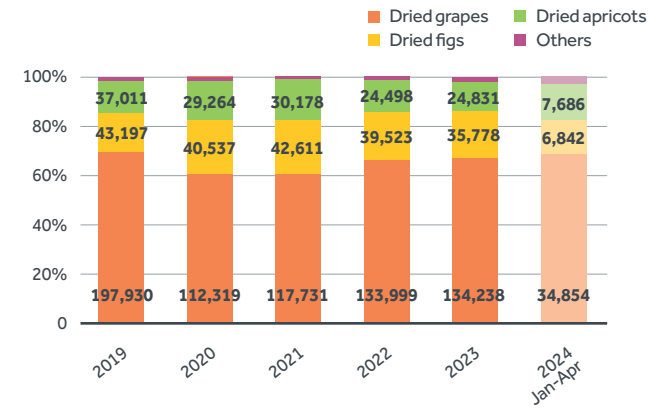


Dried Fruits: Market Share by Country of Origin* (2023)



*Intra-EU trade not included.

Imports from Türkiye: Market Share by Product (MT)



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Chilean Walnuts: Final Report on 2023 Season and Start of 2024 Harvest

During the 2023 export season, India became the largest importer of Chilean walnuts, followed by Türkiye and Italy. Marketing campaigns in India and Germany aim to position the Chile brand and boost consumption of the country's walnuts.

2023 Export Season Report

A total of 174,902 metric tons (MT) of walnuts were shipped to 72 countries, of which 58% were in-shell and 42% were shelled. With a total of 50,679 MT (in-shell equivalent), India was the leading importer of Chilean walnuts in the 2023 season, ahead of Türkiye and Germany, which had been top destination countries a few years ago. Türkiye was the second-largest importer with 26,349 MT (in-shell equivalent), followed by Italy in third place with 16,486 MT (in-shell equivalent).

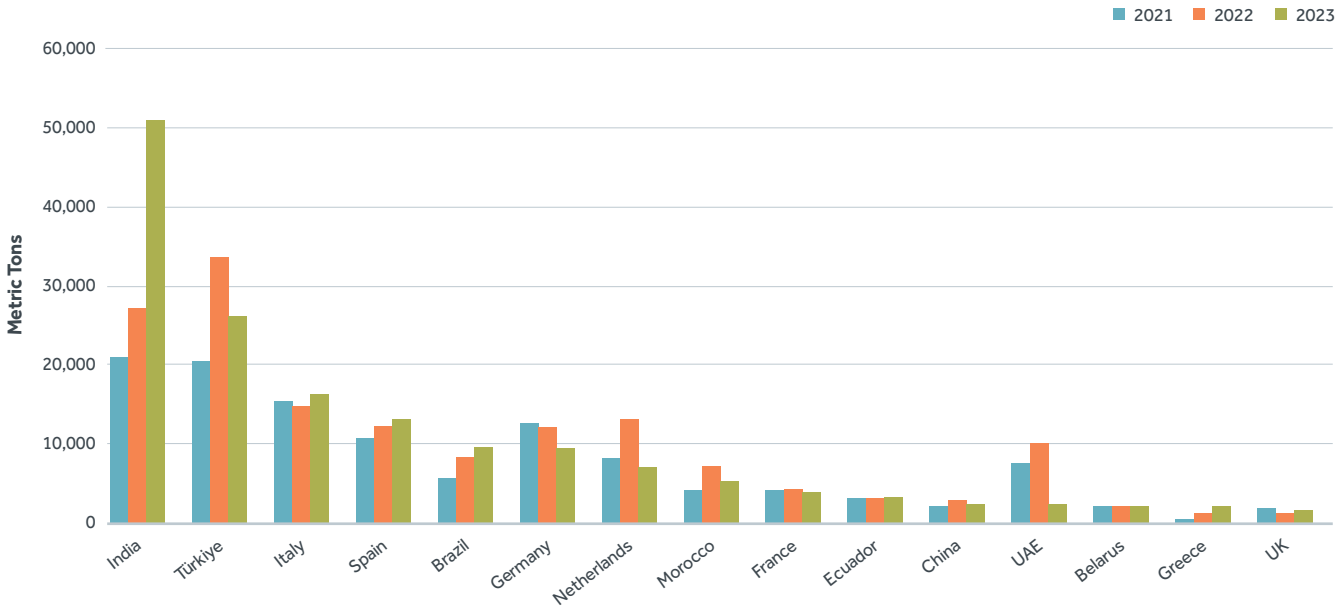
Update on Chilenut's Promotional Activities

Since 2021, Chilenut has been working through its partners to promote Chilean walnuts through powerful marketing campaigns in the Indian and German markets, seeking to boost consumption, position the Chile brand and highlight the excellent quality attributes of our walnuts. In 2024, alongside its partners and with the support of the Chilean foreign ministry's export support office (ProChile), Chilenut will continue its promotional activities in these important markets with a view to increasing the demand for walnuts worldwide and continuing to position Chile and its partners as the main suppliers of walnuts during the Northern Hemisphere off-season.

Impact of Climate Change on Chilean Walnut Crop

Finally, in order to fully comprehend the situation faced by walnut producers in Chile, it is essential to understand that climate change has modified the production and lifestyle of people around the world. In Chile, climate change has also had important effects, including long dry periods, floods and extreme storms, accompanied by a persistent temperature increase in both the winter and the summer, in addition to a significant decrease in precipitation. These conditions had a large impact on the current crop of Chilean walnuts, as the season was marked by a warm winter, heavy rainfall and severe flooding, in addition to a rainy and variable spring, mainly in the southern region.

Evolution of Chilean Walnut Exports, In-shell Equivalent, 2021-2023



How a Series of Sustainability Projects Are Putting South Africa at the Forefront of Global Raisin Supply

Photo: Raisins South Africa.

> *"When you go onto a farm, you need a holistic approach to everything that's happening, and to have a picture of the entire value chain."*

In the heart of South Africa's beautiful Orange River region, raisin producers are stepping up their efforts to be seen as the world's most sustainable source, developing initiatives that promote land protection, social work, transformation and education in a holistic approach that sees people and environment working in harmony.

In the dry, hot northwest of South Africa, the Orange River plays a huge role as a sustainable water source for the nation's raisin producers. Thanks to an abundance of sunlight, a series of solar mega projects and other independent energy-storing initiatives, it means that in a country that continues to experience unstable energy supply, the industry is both self-sustaining and reliable.

There is minimal need for chemical crop control in a region where low humidity brings less pest and disease pressure, which in turn leads to healthier soils and a near residue-free final product.

The raisin industry is constantly thinking about its long-term future. At the heart of its sustainability work is the highly innovative Vine Academy, where a variety of technical courses educate the next generation of growers on everything from soil science to orchard management, production techniques and irrigation, all supported by a Model Farm where those lessons can be tested in practice. "One of the reasons the Vine Academy was established was to teach young people who are going into the industry that you have to farm sustainably," explains academy lecturer Dr. Andries Daniels. "When you go onto a farm, you need a holistic approach to everything that's happening, and to have a picture of the entire value chain from what's put into the soil all the way to what the end consumer is going to get when they put that raisin in their mouth."

Under the wider banner of sustainability, industry body Raisins South Africa is engaged in transformation projects such as programmes to support emerging black growers, while its social and community work includes school talks and contributing to a food parcel programme.

Zooming out to fruit industry scale, the well-established Sustainability Initiative of South Africa (SIZA) offers a platform to help growers with both ethical labour compliance and environmental assurance, all while working to ensure their businesses are financially sustainable and meet the standards of the most demanding international markets.

South Africa has around 700 raisin producers —far fewer than the tens of thousands seen in other source countries— and that means bigger farm units, more consistency of product and better control over the chain. Sharing best practices and working towards sustainable goals, together they are aiming to make South Africa the supplier of choice for global buyers.

Almonds: New Research Shows Benefits for Muscle Recovery After Exercise

Football legend Deion Sanders has teamed up with the Almond Board of California to promote the nutritional benefits of almonds. Photo: Almond Board of California.

> *"Almond Board of California reinvigorates communications with novel research on exercise recovery and a celebrity spokesperson."*

Professional Hall of Fame athlete turned collegiate coach Deion "Coach Prime" Sanders and California Almonds teamed up to help consumers own their prime. Coach Prime was selected as the best person to be able to speak to the latest nutrition research findings that almonds can help with exercise recovery.

As an athlete and now a coach, Coach Prime understands that being in your prime is a mindset, and that the grind of owning your prime never stops. Therefore, it's important to be smart about exercise recovery in order to keep going after your goals. A perfect exercise food, almonds may help your recovery response from physical activity. Research funded by the Almond Board of California, conducted over four weeks among 64 US adults aged 30-65 who are occasional exercisers, found that most study participants who ate almonds experienced reduced fatigue and tension, increased leg and lower back strength during recovery, and decreased muscle damage during the first day of recovery.[1] The study included non-smoking participants without obesity who exercised occasionally; therefore, the findings cannot be generalized to other demographic and health status groups.

Another recent study, also funded by the Almond Board of California, conducted by researchers at King's College London, suggests that incorporating almonds into the diet could aid in reducing muscle soreness and improve muscle performance following strenuous exercise.[2] The study involved 25 mildly overweight middle-aged men and women who were not trained athletes but were physically active. Participants who consumed almonds reported a nearly 25% reduction in muscle soreness during a vertical jump challenge over the 72-hour exercise recovery period compared to the control group. This perceived reduction in soreness correlated with improved muscle performance during the vertical jump challenge. Importantly, no significant differences were observed in measures of cardiometabolic health, muscle damage, mood state or appetite between the almond group and the control group.

"Our study suggests that snacking on almonds can be recommended to occasional exercisers as a go-to food to help fitness recovery after strenuous exercise," said Dr. Oliver C. Witard, Senior Lecturer in Exercise Metabolism and Nutrition at King's College London. "Almonds are naturally nutritious with protein, good fats and the antioxidant vitamin E. They can be considered an ideal food for fitness." One serving of almonds (28 g) has 4 g of plant protein, 13 g of unsaturated fat and only 1 g of saturated fat.

"Sticking to an exercise routine is not easy, so finding dietary strategies to help people be —and stay— physically active is important for public health," said Witard.

That's where Coach Prime comes in to help get this important message out to the public with positive motivation.

1. Nieman, D. C., Omar, A. M., Kay, C. D., Kasote, D. M., Sakaguchi, C. A., Lkhagva, A., Weldemariam, M. M., & Zhang, Q. (2023). Almond intake alters the acute plasma dihydroxy-octadecenoic acid (DiHOME) response to eccentric exercise. *Frontiers in Nutrition*, 9, 1042719.
2. Siegel, L., Rooney, J., Marjoram, L., Mason, L., Bowles, E., van Keulen, T. V., Helander, C., Rayo, V., Hong, M. Y., Liu, C., Hooshmand, S., Kern, M., & Witard, O. C. (2024). Chronic almond nut snacking alleviates perceived muscle soreness following downhill running but does not improve indices of cardiometabolic health in mildly overweight, middle-aged, adults. *Frontiers in Nutrition*, 10, 1298868.

The U.S. Peanut Industry Is Creating the Future of Sustainability Now

RICHARD OWEN
President and CEO
American Peanut Council

Someone once said the best way to predict the future is to create it. The U.S. peanut industry couldn't agree more.

Peanut growers are proactively nurturing our environmental resources today, which will help sustain future generations to come. Behind each grower stands the U.S. peanut industry, which has collectively come together to support grower sustainability. Our actions today are shaping what peanut sustainability will look like tomorrow.

U.S. peanut farmers are dedicated to lowering emissions, providing soil conservation, and decreasing energy and water use. Thanks to decades of responsible stewardship, the peanut industry has brought its average water consumption down to 3.2 gallons per ounce of peanuts grown and halved greenhouse gas emissions over the last two decades. Not only are peanuts nutritious, affordable and a great source of plant-based protein, they offer a success story in sustainability unrivaled by others in the field.

Sustainability is one of the biggest drivers for peanut demand. We are already seeing this come into play in peanut export markets as our trading partners are progressively having sustainability expectations. Further, as U.S. manufacturers increasingly must meet consumer, investor and regulatory demands for sustainable farming practices, there is a growing need to document peanut sustainability.

That's why the American Peanut Council launched the Sustainable U.S. Peanuts Initiative, an industry-supported data-collection platform where growers voluntarily input information on their individual farming practices, such as cover crops, crop rotation, water usage, and breeding and nesting habitats, among many others. Sustainable U.S. Peanuts is creating transparency that will benefit the entire supply chain, from the people who love to grow peanuts to the people who love to eat them.

Having just completed the third crop enrollment year of Sustainable U.S. Peanuts, we've captured crucial data from more than 100,000 peanut acres across the U.S. peanut belt. The program averages are well below national benchmarks for land and energy use, GHG emissions, irrigation water use and soil conservation. Having solid data about growers' sustainability practices is essential to being able to tell the peanut story. Having today's benchmarks will help the industry continue to evolve and innovate.

The U.S. peanut industry is planting the seeds of sustainability and nurturing them daily through our actions and choices. We realize sustainability is not only the future for the peanut industry, but it's here and now.

To learn more about the Sustainable U.S. Peanuts Initiative, visit www.sustainableuspeanuts.org.

Photo courtesy of American Peanut Council.

"Our actions today are shaping what peanut sustainability will look like tomorrow."

How California Prune Growers Are Blending Innovative Technologies and Heritage Practices to Produce Quality Fruit

Photo: California Prune Board.

California is internationally renowned for its leading agricultural practices and food safety standards. With advances in technology, California prune growers are exploring data, pioneering techniques and processing efficiencies that will help the US maintain its status as the category leader.

California has a general spirit of ingenuity with many of the biggest advances in technology in the last half century starting in the Golden State —and that extends to agriculture. California is also home to over 50% of produce production in the US, and much of that takes place in the fertile Central Valley, the most productive agricultural region in the world, where much of the California prune crop is grown.

The California agriculture industry answers to both state and federal regulations for optimal food safety and sustainability practices. The Golden State has some of the highest agricultural worker pay and protections in the world, and most of the state's growers are also heavily involved in supporting their communities at large — contributing to a sustainable economy, one worker at a time.

Some of the most exciting technological advancements in the last few decades have led to a shift in irrigation methods. Today, growers irrigate their orchards based on a variety of factors, including air temperature, humidity and calculated evapotranspiration schedules. Technology has even enabled growers to monitor soil conditions through sensors and adjust irrigation schedules using a smartphone app.

Growers pair data with insights from generations of farming experience and connect with other growers in and around them to share information and effective practices. The use of drip irrigation and precise micro-irrigation systems to reduce water consumption across 42,000 acres of prune trees is certainly bearing fruit, with the industry seeing a 30-35% reduction in water usage since the 1990s.

Most notably, the California prune industry's use of precision tunnel drying provides a reliable, exceptional prune and eliminates the need for the common reconditioning practices that reduce the quality of prunes in the market. With this method, prunes are dried in climate-controlled tunnels for precise periods of time at exacting dehydration levels. It is an intricate sequence of scientifically determined, fully automated and strictly sanitary operations perfected by growers.

"The California prune industry's use of precision tunnel drying provides a reliable, exceptional prune and eliminates the need for the common reconditioning practices that reduce the quality of prunes in the market."

Meanwhile, new technologies are also being explored by researchers and growers to inform decisions around pruning, thinning, fertility management, orchard stress and pest management. All are areas the California Prune Board has committed research investment into for decades.

The California Prune Board also partners with the University of California on the development of new prune varieties that reduce drying costs, lengthen bloom time to mitigate the risk of weather-related bloom issues, and extend harvest time to help with labor constraints.

Growers are confident the balance of innovation and techniques passed through generations will keep the industry in good stead. Donn Zea, Executive Director for the California Prune Board, concludes: "We grow, harvest and process safely, responsibly and sustainably to ensure California prunes remain prized for their size, quality and taste, setting the standard for discerning consumers worldwide."

Sonata: Pillars of Sustainability and Market Compliance

SONATA

Single Origin | Traceable | Consistent Taste

In continuation of our vision, we have gone beyond processing in Nigeria. We have set up a state-of-the art, new-generation cashew processing plant to process raw cashew nuts at origin with an installed capacity of over 30,000 tons in Côte d'Ivoire. We employ more than 1,000 nationals from nearby areas, of whom 80% are women. We work directly with cashew farmers, supporting them in good agronomic practices and harvest handling, while fostering inclusive development of communities for producing cashew nuts. We incorporate world-class standards in operations, producing high-quality nuts that are fully compliant in food safety, code of conduct and traceability. We are currently exporting to the US, the UK, Europe and Asia.

Sonata's success comes from its way of doing business. For us, it is not about short-term profits but rather a sustainable way to grow the business, making sure it is resilient enough to sustain its growth and profits. Sonata's business sustainability incorporates six pillars:

- **Globally competitive** - Economically competitive position, processing and farms
- **Full traceability** - Complete traceability from farm to fork, single-origin nuts
- **Inclusive growth** - Thriving communities, prosperous farmers, employment, education and skills
- **Food safety** - Processed under international food safety standards
- **Code of conduct** - Safe working conditions, ethical practices, socially responsible and environmentally friendly production processes
- **Certifications** - Sonata has HACCP, BRC, Kosher, Halal, SMETA and organic certification in both of the origins where it operates

To organize the RCN supply chain and address the existing challenges, Sonata International started a farmer linkage program in 2020 to establish direct linkages with smallholder farmers with the help of USDA PRO-Cashew in Côte d'Ivoire. Sonata International had worked in three main regions, Marahoue, Bere and Hambol, as well as border areas of adjacent regions such as Gbeke and Tchologo.

Sonata has clear goals and objectives for its farmer linkage program. It is all about having a win-win partnership. Sonata secures competitive, sustainable sourcing of raw nuts and has full traceability, while farmers are linked directly and trained on best practices to improve yield and quality, and thus their income.

hello@sonatagroup.com
hemanath.bitra@sonatagroup.com
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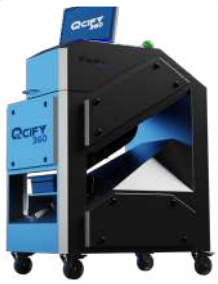


QCIFY 360

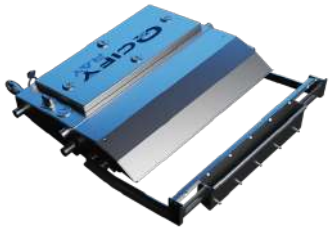
Quality control unit with automated sample weighing and uniform reporting.

QCIFY EYE

Final quality sorter with advanced deep learning models for consistent defect removal.

QCIFY HUB

Centralized system operation monitor connecting and visualizing your processing line.



QCIFY RAY

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Learn more at www.qcify.com!
Or reach out to us via info@qcify.com.

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Family Values You Can Count On

With over 50 years in the nut industry and over 35 years as a California pistachio grower and processor, we have experienced first-hand what superior quality pistachios can do for a market. It's what sets us apart in the global marketplace and has made our customers successful for all these years.

We invite you to join our family in this thriving global market for Setton's California pistachios.

Thank you!

Joshua Setton
President / CEO

BE PART OF THE ACTION.

Call 631.543.8090 or
email joshua.setton@settonfarms.com

Setton Pistachio of Terra Bella, Inc. • 9370 Road 234 • Terra Bella, CA 93270 • Tel: 559.535.6050 • Fax: 559.535.6089
European Sales Office • IJsselkade 15-7 • 7201 HC Zutphen, The Netherlands • Tel: +31(0)575-511672 • Mobile: +31(0) 657-559414