

THE VOICE OF THE INC FOUNDATION



NUTFRUIT®

FOR THE NUT AND DRIED FRUIT WORLD

Edition 82. N° 1 March 2021



INC 3D ONLINE CONFERENCE

Uniting the Nut and Dried Fruit World with a 3D Virtual Conference!

May 25-27, 2021

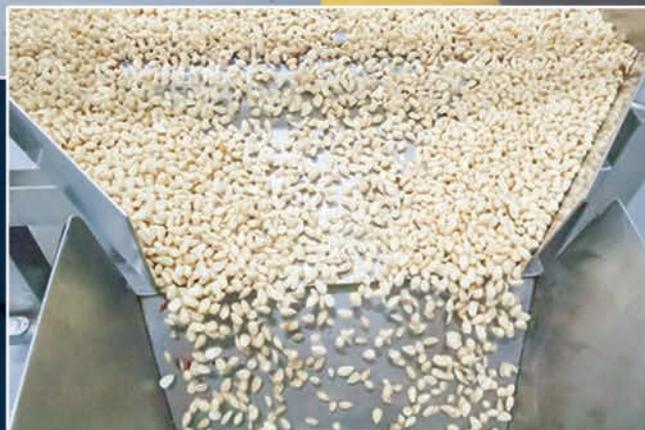
p. 58

www.nutfruit.org



ADVANCED PROCESSING SOLUTIONS FOR NUTS

Worldwide leader in technology for manufactured almonds.



From a single machine to complete processing lines.

Blanching at its best. Whiter blanched almonds.
The perfect slices, slivers and dices.
The finest flour.
Optimal roasting.



MASETO[®]
TECHNOLOGIES

Estd. 1960



**We are grower, processor, packer
& exporter of Iranian pistachios**



Head office:

**Middle Eastern Nuts
(IRNUTS)**
Motahari 6, Motahari
Street Rafsanjan, Iran
PO Box:7718676343
Tel:+98 (0) 3434323675
Fax:+98 (0) 3434330680
info@irnuts.net
www.irnuts.net

EU office:

Borna Foods Ltd
8th floor, 6 Mitre Passage
Greenwich Peninsula
London, SE10 0ER
United Kingdom
Tel:+44 (0) 2037445567
Fax:+44(0) 2033188968
info@bornafoods.com
www.bornafoods.com

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.

BOARD OF TRUSTEES

- Michael Waring** - *Chairman*
MWT Foods, Australia
- Ashok Krishen** - *1st Vice Chairman*
Olam International Limited, Singapore
- Pino Calcagni** - *2nd Vice Chairman*
Besana Group, Italy
- Riccardo Calcagni**
Besana Group, Italy
- Bill Carriere**
Carriere Family Farms, USA
- Karsten Dankert**
Max Kiene GmbH, Germany
- Roby Danon**
Voicevale Ltd, UK
- Cao Derong**
China Chamber of Commerce, China
- Joan Fortuny**
Borges Agricultural & Industrial Nuts (BAIN), Spain
- Giles Hacking**
CG Hacking & Sons Limited, UK
- Mike Hohmann**
The Wonderful Company, USA
- Cheng Hung Kay**
CHK Trading Co. Ltd., China, Hong Kong
- Mark Jansen**
Blue Diamond Growers, USA
- Jack Mariani**
Mariani Nut Company, USA
- Mark Mariani**
Mariani Packing Company, USA
- Stephen Meltzer**
Balcorp Ltd., Canada
- Russell Mooney**
Intersnack Procurement B.V., Netherlands
- Pratap Nair**
Vijayalaxmi Cashew Company, India
- Osman Oz**
Aegean Exporters Associations, Turkey
- Antonio Pont** - *Honorary President*
Borges Agricultural & Industrial Nuts (BAIN), Spain
- Antonio Pont Jr.**
Crisolar Nuts, S.L., Spain
- Chen Qi**
Qiaqia Food Co. Ltd., China
- Jan Vincent Rieckmann**
August Töpfer and Co. (ATCO Group), Germany
- Michael Rund**
Bösch Boden Spies GmbH and Co. Kg, Germany
- Hasan Sabir**
Sabirilar Findik Ihracat Ltd. Sti., Turkey
- Dick Walden**
The Green Valley Pecan, USA

EXECUTIVE COMMITTEE

- Michael Waring** *Chairman*
- Ashok Krishen** *1st Vice Chairman*
- Pino Calcagni** *2nd Vice Chairman*
- Bill Carriere** *Board Member*
- Giles Hacking** *Board Member*
- Jack Mariani** *Board Member*
- Mark Mariani** *Board Member*
- Pratap Nair** *Board Member*
- Antonio Pont** *Board Member*
- Goretti Guasch** *Secretary General and Executive Director*

For all editorial and advertising enquiries:
Marc Centelles
 marc.centelles@nutfruit.org



INC HEADQUARTERS
 Carrer de la Fruita Seca, 4
 Poligon Tecnoparc, 43204 Reus, Spain
 Tel: +34 977 331 416
 Email: inc@nutfruit.org
 www.nutfruit.org

Business News 9

- 9 Mars Wrigley's BALISTO Chocolate Bar Now in Paper for German Retail
- 10 TOMRA Food Announces the Launch of the TOMRA 5C
- 12 Hormel Foods Acquires Kraft Heinz's Snack Nut Portfolio

Gourmet 14

- 14 Manoella Buffara, Brazil

Legal Update 17

Feature Articles 21

- 21 Regional Comprehensive Economic Partnership Analysis
- 22 Bringing Risk Alive in Your Business
- 24 FeedUP@UN - Stepping Up for Our Planet and Against Food Loss
- 27 The Impact of Environmental Changes on Yields and Nutritional Quality of Fruit, Nuts & Seeds
- 29 The Socio-economic Importance of Natural and Planted Walnut (*Juglans regia* L.) Forests in the Silk Road Countries

Country/Product Spotlight 33

- 33 Walnuts, Chile

Health News 46

- 46 Protective Effects of Nut Consumption in Cognitive Dysfunction

A Chat

with the Industry 52

- 52 Emmanuel Delerm, Global Head of Blockchain, Merchandising and B2B Supply Chain platforms, Carrefour

INC Congress 54

- 54 Dubai, INC XXXIX World Nut and Dried Fruit Congress

INC News 58

- 58 INC Online Events Program
- 60 Real Power for Real People: Boost your Attitudinal Immunity
- 63 INC Academia: Where Industry Leaders Are Shaped
- 65 Recap of the INC Online Conference 2020

Global Statistical Review 69

- 83 Special Report: Tree Nuts and Dried Fruits Imports to South Korea

Industry News 86

- 86 The California Almond Industry Celebrates 25-Year Commitment to Nutrition Research (1995-2020)
- 87 How Prunes are Proactively Addressing Non-Tariff Barriers for Nuts & Dried Fruit
- 88 California Walnuts: A Healthy Addition to the Daily Diet
- 89 Boost Immunity with Key Nutrients Found in Pistachios
- 91 News from the INC Nutrition Research & Education Foundation (INC NREF)
- 92 Vector Swabbing 101
- 93 Australian Macadamias Video Campaign Wins Cinematography Award
- 94 Nuts for Life update: New Plant Protein Report; The Healthy Handful Podcast; Join Us on LinkedIn
- 95 Sports and Nuts, the Perfect Match of Nuclea's 2021 campaign

Advertisers List 98

The *Nutfruit* magazine is published three times a year by the International Nut and Dried Fruit Council - INC (Fundació Privada Internacional Nut and Dried Fruit CIF G-43738475). This magazine, including all articles and illustrations, is copyright protected. Any utilization beyond the light limits set by the Copyright Act is subject to publisher's approval. All the trademarks, brand identities and graphic images shown in this publication are the property of their respective owners. While the publishers believe that all information contained in this publication was correct at the time of going to press, they can accept no liability for any inaccuracies that may appear or loss suffered directly or indirectly by any reader as a result of any advertisement, editorial, photographs or other materials published in the *Nutfruit* magazine.



JOIN THE **3D** VIRTUAL EXHIBITION



Go to www.australianalmonds.com.au/expo to register and experience our Virtual Reality Trade Exhibition.

Our 3D expo will give you the latest updates on our 2021 Australian Harvest now underway.

PROUDLY SUPPORTING



www.australianalmonds.com.au

INC Is Continuously Adapting to Provide Members with Valuable Services During Uncertain Times



MICHAEL WARING
INC CHAIRMAN

As we move into 2021, COVID-19 continues to affect our lives and businesses. With this in mind, I would like to share with everyone that the May 2021 in-person congress in Dubai has officially been shifted to a virtual event and the in-person congress will now take place May 11-13, 2022. The safety of our members is of utmost importance and while we would love to meet in person, it is not yet viable. More information on the 2022 Congress in Dubai will be made public as it is confirmed, although I can share with you that the wonderful Jumeriah Hotel will remain as the location for the Dubai Congress.

In light of this news, the INC has organized various stimulating and knowledgeable online webinars for our members leading up to the online congress scheduled May 25-27, 2021. February saw the successful launch of the webinar, Mitigating Risk & Protecting your Company's Reputation in 2021, led by global insurance firm, Aon. At the time of this letter, the INC is planning a webinar with the Mediterranean Shipping Company (MSC) called Shipping Challenges in a COVID-19 World—an Interview with MSC, and the third webinar, taking place in April, will be Retailers & Suppliers Analyze the State of the Industry: Present and Future. These webinars continue to provide valuable information to our members during difficult times.

The online congress, now May 25-27, 2021, will include all of the same working groups, technical sessions, and aspects that are valued at our normal congresses. While we are disappointed to not be able to meet in-person, we are excited to offer this virtual option that will bring together the industry and we hope you join us. As more information is confirmed, we will communicate it with you.

The newest edition of the INC Academia has been launched and with new courses and a personalised learning experience, the INC expects this year's program to bring a great deal of value to its students. There are three new courses: Risk & Insurance, International Market Opportunities, and Cross-Cultural Negotiations. Additionally, there are two new subunits: Nut Allergies and INC Short Form Contract.

To date, the INC's dissemination campaign has also been a wonderful success. The campaign aimed to connect nuts and dried fruit with attitudinal immunity, one's ability to resist negativity. The main campaign video has had over 1.5 million views and across Instagram and Tik Tok, 27 influencers helped spread the message garnering over 1.4 million interactions on their posts. The campaign will be coming to a close later in March.

We would like to thank each and every one of you for supporting our industry and despite the current global situation, we hope to have your participation in our webinars, our online congress, and of course we hope to see you at the INC Congress in Dubai in 2022.

Yours sincerely,

Michael G. B. Waring

WE PROMISE THE BEST CALIFORNIA PRUNES

BECAUSE WE NEVER
PRUNE BACK QUALITY.

The Wilbur Family has been growing, processing, and packing premium prunes in California since 1869.

While competitors cut costs with lower quality fruit and processing, Wilbur Packing continues our proud family tradition by offering the most premium prunes on the market today.



LEARN MORE AT WILBURPACKING.COM

sales@wilburpacking.com | +1 (530) 671-4911

WILBUR
PACKING COMPANY

Mars Wrigley's BALISTO® Chocolate Bar Now in Paper for German Retail



© Mars GmbH.

Mars Wrigley Germany has announced that they are offering the BALISTO® Honey-Almond Chocolate bar in a paper-based packaging for the first time and will partner with German retail partner EDEKA Minden-Hannover (regional company of the EDEKA association). More than 90 percent of the packaging of the 100,000 multipacks (each contains 9 single bars) is made of paper. The packaging developed for Mars from special paper is more than 90 percent natural fibers and is FSC® and PEFC™ certified. With this test, Mars Wrigley will reduce the use of packaging plastic by around 440 kilograms. The sustainable BALISTO® multipacks will be available in more than 500 EDEKA markets in the region from February 2021.

The company's goal is to make all packaging reusable, recyclable and compostable by 2025 and to reduce the consumption of new plastic by 25 percent. The launch of the BALISTO® pilot project is an important step towards achieving this goal. ■

Danone North America Expands Commitment to Kids Nutrition, Debuts Silk® Kids Almondmilk Yogurt Alternative

Danone North America has unveiled its latest plant-based product innovation, Silk® Kids Almondmilk Yogurt Alternative. Silk® Kids Almondmilk Yogurt Alternative is the latest innovation from Silk, and is designed with kids and parents in mind. The new yogurt alternative is fortified with Calcium and Vitamin D to help support strong bones and features less sugar. Silk® Kids Almondmilk Yogurt Alternative is also peanut-free, gluten-free, lactose-free and Non-GMO Project Verified –making it a good allergen-friendly option for lunchtime and snack time. The dairy-free yogurt alternative comes in three delicious flavors including Mixed Berry, Apple Cinnamon and Strawberry, and have been available at select retailers since December 2020.

In addition, Danone North America donated more than \$100,000 in kid's products to the Regional Food Bank of Northeastern New York in collaboration with one of its retail partners Hannaford Supermarkets. The donation extends their commitment to providing solutions that meet the nutritional needs of children in the New York Community, home to one of its U.S. headquarters. ■

Webster Ltd and Stahmann Farms Enterprises Merge

In mid-November 2020, it was announced that Webster Ltd and Stahmann Farms Enterprises completed a merger. As a result, they will form one of the largest tree nut business in Australia and the new company will be known simply as Stahmann Webster. Both have a long history of agribusiness in Australia, with Webster since 1831 and Stahmann since 1968. Representatives from Stahmann Webster said that very little administrative change would be happening.

The consolidation was designed to support the further growth of the diversified Australian tree nut platform and as a combined entity they will focus on growing, processing and marketing of the Australian walnut, pecan, macadamia and almond crops, which now extends from Bundaberg in central Queensland to Swansea in eastern Tasmania. ■

Innovative optical sorting solutions for nut processors

VENTUS



- User friendly through integration of artificial intelligence software
- Quick product switching
- Widest laser sorters
- Superior resolution
- Perfect hygiene
- 24/7 service



Contact us:
info@optimum-sorting.com
www.optimum-sorting.com

360°
 Optimum
 Reality
 Demo

OPTIMUM
 SORTING



TOMRA Food Announces the Launch of the TOMRA 5C



© TOMRA Food

In December 2020, TOMRA Food launched the brand new TOMRA 5C, an optical food sorting system for the nut and dried fruit industry. The TOMRA 5C premium optical sorter combines sensors with machine learning and big-data analysis to ensure accurate foreign material removal. Additionally, operators can view a clear picture of each and every individual product and foreign material.

The TOMRA 5C has been engineered to examine mass quantities of nuts and dried fruit with ease, greatly reducing the need for additional labor while maximizing the amount of higher-quality product. Processors can expect to minimize handling, re-processing, and labor costs. These sensor design improvements also allow clearer visualization and more precise color sorting.

Additionally, TOMRA Insight, the cloud-based data analysis platform connected to the TOMRA 5C, allows processors to access actionable data that can be used to make informed business decisions. 🟩

Borna Launches a Pistachio Drink as a Dairy Alternative



© Borna Foods Limited

Borna Foods, a British company focusing on pistachios, has launched a new dairy alternative beverage. Their Pistachio Drink joins a growing market of dairy alternative beverages and provides consumers with another plant-based option. Their drink is made using the entire pistachio nut, which means that there is no wastage. They also boast the fact that they do not use any additives such as stabilizers, gums, lecithin, or extracts. This allows them to produce a pistachio drink with just four ingredients or fewer. Moreover, their product is vegan certified, Kosher, and Halal.

Apart from being low-fat, dairy-free, and gluten-free, their pistachio drink has extra Vitamin B12 and Calcium. In 2020, the product was awarded a World Food Innovation Award in the Best Drink Concept category. According to a Mintel report, almost a quarter of UK shoppers now include dairy alternatives in their shopping lists. This opens up new opportunities for products such as the Borna Foods Pistachio Drink. 🟩

Ferrero Plans to Trace the Hazelnut Value Chain through Partnership with Sourcemap

In late January 2021, Ferrero announced a new partnership with Sourcemap, a provider of supply chain mapping, traceability, and transparency solutions for companies across multiple industries. Most of the world's food supply chains, including Ferrero's global sourcing activities, are facing the same commonality: complexity. The hazelnut supply chain has specific challenges, and increasing traceability and transparency will provide benefits to the industry. Using advanced technologies for traceability will further strengthen governance and also mitigate the potential short-term impact on Ferrero's progress as a consequence of Covid-19.

Ferrero aims to achieving full traceability of its sourced hazelnuts and by partnering with Sourcemap's technology, they can use a comprehensive platform to visualize supply chains and enhance traceability, further strengthening Ferrero's efforts in this regard in working with its suppliers to achieve greater transparency. Through Sourcemap's platform, Ferrero will have the possibility to collect key data on social and agricultural practices, validate the value chain through data science and ensure that performance is continuously improving. 🟩



WE ARE ALMONDSSM

THE FAMILY ALMOND COMPANY
and global service provider

*A long standing tradition
of performance
rooted in stewardship,
quality, and innovation.*



Hormel Foods Acquires Kraft Heinz's Snack Nut Portfolio

On February 11, Hormel Foods Corporation announced that they had reached an agreement to acquire *Planters*®, the snack nut portfolio of Kraft Heinz. As of now, the agreement is expected to close in the second quarter of 2021, pending regulatory review and approval. Included in the deal are the *Planters*®, *NUT-rition*®, *Planters*® Cheez Balls and *Corn Nuts*® brands, and in total the transaction will be \$3.35 billion. Moreover, the acquisition includes three dedicated production facilities located in California, Arkansas and Virginia.

Hormel Foods Corporation, based in Austin, Minnesota, is a global branded food company with over \$9 billion in annual revenue across more than 80 countries worldwide. Its brands include *SKIPPY*®, *SPAM*®, *Hormel*® *Natural Choice*®, *Applegate*®, *Justin's*®, *Wholly*®, *Hormel*® *Black Label*®, *Columbus*® and more than 30 other brands. The company is a member of the S&P 500 Index and the S&P 500 Dividend Aristocrats. 🟩

Besana Celebrates its Centenary



As the Italian group Besana, one of the founders of INC, marks its centenary, the company has reaffirmed its commitment to sustainable enterprise and close, international partnerships.

Headquartered in Naples, where it first began trading in 1921, the dried fruit and nut company now exports to all five continents and imports raw materials from 30 countries.

And with 450 employees and annual turnover of €190 million, it finds itself far along the track since its foundation by brothers Emilio and Vincenzo Besana.

During that 100-year journey, it has witnessed a world war, two fires, a devastating earthquake, and a global pandemic. Yet it has also managed to emerge as one of Europe's leading healthy food suppliers.

Last year, it joined the Importaco Group (Spain), a deal that made the two family-run companies more competitive on the global market.

"We also had to deal with the pandemic," says CEO Riccardo Calcagni, "but this has not stopped us wanting to grow. We are used to treating obstacles as opportunities to renew."

Pino Calcagni, who led the company's expansion after joining in the 1960s, sees much that makes him confident for the future: an enterprising management team, a continuous desire to invest in R&D and new technologies, and a major investment in sustainability.

"We have almost nothing to fear," he concludes with a smile. "What we have seen in one hundred years gives us the courage and determination to look to the future with optimism." 🟩

NUTS

You can Trust



SINCE 1976
AROUND THE WORLD

www.secoex.com/en



THE RELIABLE PARTNER FOR MORE THAN 60 YEARS

New Almond Blanching Log 5 Reduction Certified · Nut Slices · Nut Slivers · Nut Dices · Nut Extra-Fine and Regular Flour
· New Nut Butters, Creams and Drinks · Bonded Warehouse (Cold and Regular Storage) · Logistic Platform
· Laboratory Analyses · New R+D Department · New Glass Line from 100ml up to 1 Liter



Tel. +34 977 318 006 · Avinguda de Falset, núm, 148 · Reus (Spain)
jesa@joanescoda.com · www.joanescoda.com

JOAN ESCODA
elaborant fruita seca des de 1961





MANU BUFFARA ,
EXECUTIVE CHEF AND OWNER
OF MANU, CURITIBA, BRAZIL

Manu Buffara has received critical acclaim for its tasting menu that has been recognized by World's 50 Best and Best Chefs Awards. Paving the way for gastronomy in Brazil, Manu celebrates the culture and produce unique to the region of Paraná. Formerly studying journalism, Manu found her passion for cooking, realizing her way of communicating was not through words but taste. At Manu, she uses organic ingredients from carefully selected suppliers and her own garden. Manu's devotion to sustainability and quality ingredients stems into her commitment to Curitiba, working with local communities to transform abandoned sites into urban gardens and educating locals on how to care for the gardens and feed themselves.

You started out your career in journalism, so when did you know that cooking and becoming a chef was what you truly wanted to do?

I went to the United States when I was 16 to learn English and one of the jobs I had was in a kitchen. Once I returned to Brazil, my parents told me that I could not be a cook and that I had to go to university. So, I chose Journalism, but during my education, I continued to cook and work in restaurants. My grandmother had told me that if I wanted to become a chef, I needed to work in Italy as a dishwasher first and try other jobs in the kitchen to see if I truly like it. So, I took one year break and went to Italy to get some experience. This was hard for my parents because they were determined that I finish university, so I ended up working at night and did my classes during the day to finish.

How would you describe Brazilian cuisine?

Brazil is such a big and diverse country and the cuisine is equally diverse. You can have a meal in south Brazil that uses completely different flavors from a meal in northern Brazil. Each state is really different because we are a country made up of many people from Europe, Africa, and many other places around the world, it is a mix of culture. Each cook is inspired by their own life and their own experiences and this influences the many flavors that are used.

In 2020, you planned on opening your restaurant Ella in Manhattan. What inspired you to take Brazilian cuisine abroad? And do you have plans on growing even more?

We were supposed to open a new restaurant in March of 2020, but as everyone knows, COVID-19 disrupted those plans. I was in New York in February of 2020 preparing everything, but we had to postpone the opening. We prefer to open when things return to a sense of normality and we want to open a restaurant for people when they are happy, so we have decided to open at the end of 2021.

Manu is my restaurant in Brazil and I decided to go with Ella in New York as my name is Manoella. I was inspired to share Brazil cuisine because internationally when you see a Brazilian restaurant it is most likely our barbecues or feijoada, but I want to show New York, which I think is the center of the world for food, what the true flavor of Brazil is. It is one of first Brazilian restaurants that will be more fine dining.

Over your career so far, you have won many awards, including being on the list of the top 100 chefs in the world. What is the reason so many people appreciate your cooking style and your food?

I think people like it because of the unique flavors that I use in my cooking, but it is not only because of the food. It is also about the work that I do in my community and in my city. It is how I think food can change a nation and how it is the future. Cooking is about everything from producers and the ingredients.

It is really nice to win awards, but when you open up a restaurant, you have a responsibility. People expect something amazing when they come to your restaurant and that is challenging for a chef. Each and every day, I am challenged to be

better and make my food better. This is what I think is exciting in the life of a chef.

Sustainability and quality ingredients mean a lot to you. Why is this so important to you and how do nuts and dried fruits play a role in creating a sustainable menu?

We are living in a constantly changing world and it is more than just saying you are sustainable. We have to understand the importance of the food we select in the markets, and ask ourselves if this is sustainable.

Brazil has a lot of dried fruits and nuts and it is a part of our lunch and dinner every day. In the restaurant we use a lot of nut-based drinks from almonds and Brazil nuts. The flavor is so incredible and you get more flavors, like acidity when you burn the Brazil nuts and you make the oil. It is a pure and incredible flavor and it is something that more and more people are doing. These ingredients will play a role in the future. Dried fruit can also provide an alternative way of adding sweetness to your food and I think this is the responsibility of the chef to include the best ingredients possible.

How are nuts and dried fruits used in your cooking style and in general, in Brazilian Cuisine?

Today, we use all of the nuts. We use a lot of the different nut oils like cashew and Brazil nut oils. As I said before, our restaurant incorporates many types of nut-based drinks and we love to because of the unique flavor they bring.

I think that Brazilians use nuts every day, they are found everywhere in Brazil, in the south, in the north, and they are a part of everyday meals. They are not only used in the restaurants, but in the homes of many Brazilians.

What is one thing that you have learned that you would like to share with our readers?

We have to look more closely at the food we consume and we have to understand the entire process that goes on behind the food we eat. I also like to encourage people to not use recipes, but be creative and cook more at home. Our kids are the future and they need to be able to remember what grandma's kitchen smelled like and have the experiences and memories of cooking. ■

QUICK-FIRE ROUND!

What is the best part of being a chef?

The connection with the products and people.

What is the next big gastronomical trend in the world?

People will look more for healthy foods.

What nuts and dried fruits do you always have in your kitchen?

Almonds, cashews, pecans, hazelnuts, and really, just about all of the nuts.

Cará, Cauliflower, Passion Fruit and Peanuts

Fried passion fruit and cauliflower sauce

Ingredients:

1st. part

- 185grs of mashed cauliflower
- 110grs of passion fruit
- 200grs of whole milk

2nd. Part

- 120grs of whole milk
- 50grs of cream
- 100grs of noisette paste

Preparation:

1st. part

In a high-heat saucepan put the mashed cauliflower and bring to a boil, add the milk and let it fry, add the passion fruit with the seeds and mix.

2nd. Part

Put the noisette paste in a pan, bring to a boil and fry the cream with the milk. Mix the ingredients of the first part and you're done.

Cauliflower

Ingredients:

- 1 medium cauliflower unit (serves 10 people)
- 100ml of water
- 100grs of butter

Preparation:

In a high pot, place the water, butter and cauliflower over medium heat for approximately 20 minutes. Covered pot.

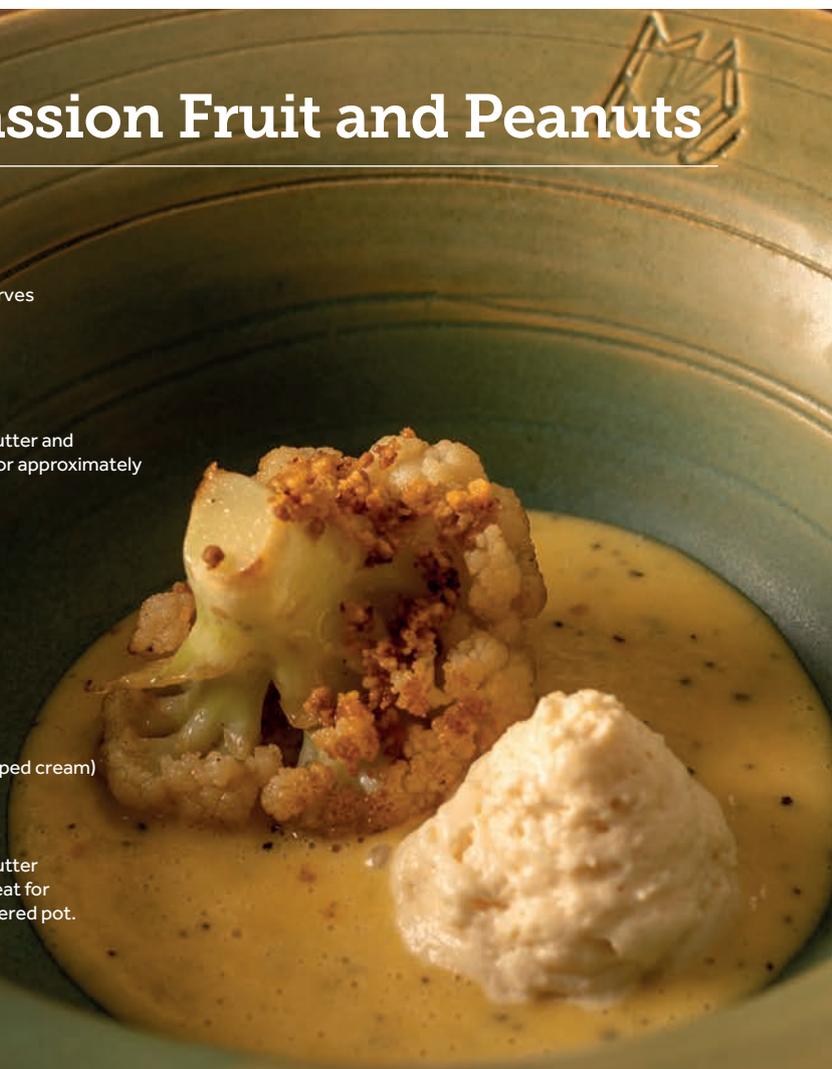
Peanut foam

Ingredients:

- 300grs of roasted peanuts, shelled and unsalted
- 350ml of milk
- 200grs of cream
- 120ml of rice vinegar
- Salt to taste
- Siphon for foam (type of whipped cream)
- 2 gas capsules

Preparation:

In a high pot, place the water, butter and cauliflower over medium heat for approximately 20 minutes. Covered pot.



SINCE 1921

100 YEARS OF NUTS AND DRIED FRUIT



From field to fork – a hundred years of history to look to the future

Since 1921, the Besana Group, an international leader in the processing of nuts and dried fruit, is the leading **private label** supplier to the main distribution chains in Europe and worldwide. Its Industry division, meanwhile, supplies semi-finished products to major international food companies and to the HoReCa channel.

Besana has an integrated business model with a worldwide network of producers. This **virtuous and sustainable** supply chain, from farmer to consumer, provides a supply of high quality raw materials, with full traceability.

The Besana Group is a family business that has grown thanks to the commitment and dedication of 4 generations of the Calcagni family. Since 2020, following the integration with the Spanish group Importaco, they have become one of the top ten companies in the European market.

Besana[®]
QUALITY NATURALLY 



*A century of land,
people and nuts*

www.besanaworld.com



IMPORTACO

Corporate Due Diligence

EU: Legal Affairs Committee Adopts Mandatory Due Diligence

On January 27, Legal Affairs Committee MEPs voted in favor of a new EU law that requires companies to comply with human rights and environmental standards within their value chains.

The draft legislative initiative calls on the European Commission to urgently present a law that ensures companies are held accountable and liable when they harm—or contribute to harming—human rights, the environment and good governance. It must also guarantee access to legal remedies

for victims.

Rules should apply to all companies operating in EU internal market, including those from outside the EU. Companies should be held liable for their actions and be fined for causing harm or contributing to it, unless they can prove that they have acted in line with due diligence obligations and taken measures to prevent such harm. The rights of victims or stakeholders in third countries would also be better protected.

Dietary Guidelines

USA: Dietary Guidelines

On December 29, 2020, the U.S. Department of Agriculture and the Department of Health released the new Dietary Guidelines for Americans, 2020–2025.

The Guidelines are aimed to provide science-based advice on what to eat and drink to promote health, help reduce risk of chronic disease, and meet nutrient needs. For adults ages 19 through 59, it is recommended a consumption of 5 ounce equivalent per week of 'Nuts, Seeds, Soy Products' for patterns at 2,000–2,600 calories per day.

One change this year is the official recommendation for parents to introduce potentially allergenic foods, like peanuts, to infants within the child's first year. The Guidelines go even further for infants who are at a high risk of peanut allergies, suggesting and recommending to introduce peanut-containing foods at age 4 to 6 months.

Previously, the recommendations ranged from waiting until 3 years or older to saying there was not sufficient evidence to delay the introduction of potential allergens like peanuts. Now, more research has suggested it can be beneficial to introduce these products to infants. Most notably, the Learning Early About Peanut Allergy (LEAP) study showed that introducing peanuts at an early age, as early as four months, reduced the risk of developing peanut allergies.

The Guidelines state that caregivers should first check with healthcare providers before feeding the infant peanuts and that a simple blood test or skin prick could be used to recommend whether peanut and peanut-products should be introduced, and what the safest method to introduce it is. More information: [dietaryguidelines.gov](https://www.dietaryguidelines.gov)

Labeling

EU: Front-of-Pack Nutrition Labeling, Proposal for a Regulation

The European Commission plans to introduce a mandatory front-of-pack nutrition labeling scheme by the end of 2022.

As part of the EU Farm to Fork Strategy, the European Commission launched a public consultation on a proposal for a harmonized mandatory front-of-pack nutrition labeling, with deadline for feedback February 3, 2021. The aim of this consultation was to ensure better labeling information to help consumers make healthier and more sustainable food choices and tackle food waste. Specifically, the EC is proposing to introduce a standardized mandatory front-of-pack nutrition labeling; extend mandatory origin or provenance information for certain products; and revise the rules on date marking ('use by' and 'best before' dates).

The Commission has identified four types of front-of-pack labels currently in use or development in the EU. Nutrient-specific labels: Option 1) Numerical; Option 2) Color-coded, and Summary labels: Option 3) Endorsement logos; Option 4) Graded indicators (e.g. Nutri-Score). The assessment of options 1 to 4 will cover the impact of their use on a voluntary or a mandatory basis.

Pesticides

EU: Sustainable Use of Pesticides Directive

The European Commission launched a public consultation on the revision of the Sustainable Use of Pesticides Directive (SUD) with deadline for feedback April 12, 2021.

As part of the European Green Deal, the Commission's Farm to Fork Strategy sets specific targets to reduce the use and risk of chemical pesticides by 2030. The Commission is evaluating the SUD and assessing the impacts of possible future measures intended to significantly reduce the use and risk of chemical pesticides. The rules encourage reducing pesticides through integrated pest management and alternatives to chemical pesticides.

On January 19, the Commission held the first stakeholder consultation event.

Traceability

USA: Food Traceability

The U.S. Food and Drug Administration is proposing to establish additional traceability recordkeeping requirements for persons who manufacture, process, pack or hold foods the FDA has designated for inclusion on the Food Traceability List. The list includes tree nut and peanut spreads.

At the core of this proposal is a requirement to establish and maintain records containing Key Data Elements associated with different Critical Tracking Events.

The comment periods for the proposed rule and information collection provisions closed on February 22, 2021.

Trade

CHINA: 2021 Tariffs

On December 21, 2020, China announced its import tariff schedule for 2021. This announcement does not affect the retaliatory tariffs on US exports to China, which continue to be applicable.

The listed import tariffs of nuts and dried fruits are the following:

EX*	HS Code	Commodity	MFN** Tariff Rate (%)	2021 Tentative Applied Rate (%)
	08012100	In-shell Brazil nuts, fresh or dried	10	7
	08012200	Shelled Brazil nuts, fresh or dried	10	7
	08013100	In-shell cashews, fresh or dried	20	7
	08013200	Shelled cashews, fresh or dried	10	7
	08021100	In-shell almonds, fresh or dried	24	10
	08025100	In-shell pistachios, fresh or dried	10	5
	08025200	Shelled pistachios, fresh or dried	10	5
	08026200	Shelled macadamia nuts	24	12
	08029090	Pecan (whether or not shelled or peeled)	24	7
ex	08134090	Dried cranberries	25	15

* EX indicates that commodities applicable to tentative duties should be within the HS code and should be determined by the Mandarin Chinese commodity description.
 ** MFN: Most Favored Nation.

Tariffs are effective since January 1, 2021.

EU: Agriculture MEPs Call for a Truce in EU-US Trade Dispute

In a letter addressed to EU’s Executive Vice-President and Commissioner for Trade, Valdis Dombrovskis, the Chair of the European Parliament’s Agriculture Committee Norbert Lins and the majority of political groups in the committee call on the European Commission “to intervene directly” in the Airbus/ Boeing dispute as sanctions stemming from it are “causing severe damage to numerous European agricultural sectors”.

As reported by the press office of the European Parliament, the letter requests the Commissioner for Trade “to negotiate with President Biden’s administration a moratorium on sanctions on both sides of the Atlantic which would allow negotiators to find an effective and long-lasting solution to this dispute”.

“A conflict arising in the aeronautical field is gravely impacting agricultural communities across Europe, which are already struggling with the dire impacts of the COVID-19 crisis”, Agriculture MEPs write in the letter.

At the same time, the European Federation of the Trade in Dried Fruit & Edible Nuts, Processed Fruit & Vegetables, Processed Fishery products, Spices, Honey (FRUCOM) co-signed a letter together with 71 other trade associations from the EU and the US calling on the European Commission President, Ursula von der Leyen, and US President, Joseph R. Biden to remove, or at least suspend all punitive tariffs affecting Trans-Atlantic trade in goods unrelated to the Airbus/ Boeing and steel and aluminium disputes.

MOROCCO: 2021 US Tariffs

Morocco announced the 2021 Tariff Schedule under the US-Morocco Free Trade Agreement for calendar year 2021. As of January 1, 2021, imports of US almonds are listed at zero tariff and zero quota.

HS 2017	Product Description	Preferential Treatment
0802.11.00	Almonds in-shell	Rate: 0% Quantity: unlimited
0802.12.00	Almonds shelled	Rate: 0% Quantity: unlimited

TURKEY: Walnut Tariffs

According to a USDA GAIN Report, on December 31, 2020, the Government of Turkey raised MFN import tariffs for in-shell and shelled walnuts to 15%, except for countries that have a free trade agreement with Turkey.

HS Code	Description	MFN Tariff
080231	In-Shell Walnut	15%
080232	Shelled Walnut	15%

US origin in-shell and shelled walnuts are subject to an additional 10% retaliatory tariff:

HS Code	Description	MFN Tariff	US Retaliatory Tariff	Total tariff for US imports
080231	In-Shell Walnut	15%	10%	25%
080232	Shelled Walnut	15%	10%	25%

In addition, the Turkish Government abolished the Housing Development Fund Fee of 320 USD/MT that was being paid for importing walnuts to Turkey. However, the oversight (or reference) price system was re-introduced. The oversight price is a minimum price that the government uses for tax purposes, even if the commodity was purchased below the oversight price.

The following oversight (or reference) price was re-introduced:

HS Code	Description	Oversight Value on CIF (USD/MT)
080231	In-Shell Walnut	3,500 USD
080232	Shelled Walnut	6,500 USD

UK: Rules of Origin for EU Products

On December 29, 2020, the United Kingdom published guidance regarding rules of origin for goods moving between the UK and EU.

This document provides detailed guidance on the rules of origin requirements under the UK-EU Trade and Cooperation Agreement. The guidance explains the most important provisions which both UK and EU businesses need to understand and comply with, in order to ensure that they pay zero tariffs. The information is available online, at www.gov.uk.



Nuts and Dried Fruits – Competence in Products, Analyses and Food Chain Control

Professional sampling and monitoring of all process steps in the supply chain. Available in more than 100 countries around the world.

Food Fraud • Sensory Analysis • Pesticides • Contaminants • Mycotoxins
MOSH/MOAH • Microbiology • Nutrition Values • GMO and many more...

service@eurofins.de
www.eurofins.de



Amazon NUTS



WHITE
LION
FOODS

The food source with the most **SELENIUM** content
From **PERU** to the world



By consuming Amazon Nuts, you are
helping to protect the Amazon rainforest!
Scan the bar code and learn why!

www.whitelionfoods.com





Regional Comprehensive Economic Partnership Analysis

On November 15, 2020, Australia, China, Japan, New Zealand, South Korea, and the 10 ASEAN (Association of Southeast Asian Nations) countries (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam) signed the Regional Comprehensive Economic Partnership (RCEP).



Many economists agree that free trade agreements and lower or no tariffs will stimulate growth in a country's economy. Tariffs, which are taxes on the import or export of goods, increase the price of traded goods and in turn force countries to isolate themselves from the global economy. This isolation from international trade also has negative effects for companies that have a desire to expand their business and ship products internationally. Within the nut and dried fruit industry, international trade plays an important role and global imports of tree nuts, peanuts, and dried fruits has continued to trend upward over the last decade.

A Closer Look into the RCEP

Prior to the RCEP, the largest free trade blocs were the United States-Mexico-Canada Agreement (USMCA), previously known as North American Free Trade Agreement, and the Euro Zone. Now, the newly signed RCEP will become the largest trade bloc in the world. The fifteen countries that form the RCEP represent almost one-third of the world population and close to 30% of global gross domestic product (GDP). The deal will also represent nearly 28% of trade in the world. The size and impact of the RCEP cannot be understated, and there is significant reason to believe that it could jumpstart the economic recovery of Asia after COVID-19. The timing of the signing is also important as it signifies a joint international collaboration during an unprecedented time.

The agreement plans to eliminate a wide range of tariffs on imports over the next twenty years and it is likely to spur investment among the member parties and provide stability along the supply chain. Many of the countries involved in the partnership previously had bilateral free trade agreements in place, but the RCEP will provide a less complicated path to conduct international trade within the region.

Apart from tariff reductions, the agreement will cover rules of origin, intellectual property, electronic commerce,

competition, small and medium sized businesses, economic and technical cooperation, and government procurement.

In 2016, the US led negotiations for the Trans-Pacific Partnership (TPP) which aimed to create a large Asian-centered free trade agreement, although notably, it excluded China. However, in 2017 before the agreement was ratified, the Trump administration withdrew the US from the agreement. This decision by the Trump administration paved the way for the RCEP to come to fruition and now, the agreement includes China, but leaves the US out. Moreover, the RCEP does not include India, which is viewed as a market full of opportunities and growth. The Indian Prime Minister decided to withdraw India from the agreement in 2019 due to concerns that the agreement could hurt local producers. Now, the next step is for the participating countries to ratify the agreement and then the RCEP should come into effect later in 2021 or early 2022. 🟩

Sources:

1. <https://www.bbc.com/news/world-asia-54949260>
2. <https://www.dfat.gov.au/trade/agreements/not-yet-in-force/rcep/news/joint-leaders-statement-regional-comprehensive-economic-partnership-rcep>

Bringing Risk Alive in Your Business

CIARA JACKSON

Ciara is the Food, Agribusiness & Beverage EMEA Industry Vertical Leader & Risk Consulting Leader for Aon Ireland.

Risk management is how an organisation identifies, manages and controls the potential risks and opportunities it faces in pursuit of its strategic and operational objectives. Risk identification is the first step in the process.

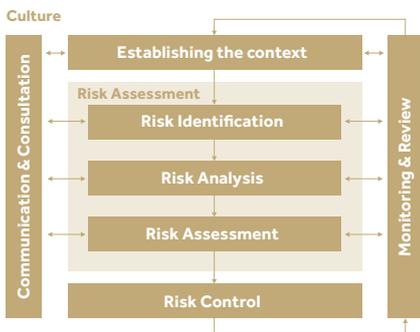


Figure 1. Risk Management Process (aligned to ISO31:000)

To help ensure risks are identified, assessed, prioritised, and managed effectively, establishment or improvement of risk management tools is required. These include an enterprise-wide risk register, appropriate risk assessment criteria and action plans for mitigating risk or maximising opportunities.

What Is a Risk Register?

A risk register typically lists all key risks identified by the business that could impact objectives. Best practice is for each risk to be assessed based on likelihood (how likely is it that the risk will occur) and severity (impact on the business if the risk to materialises). Some risks carry a high likelihood and a low severity, whilst others have a low likelihood and a high severity, these are commonly referred to as 'Black Swans'.

Research by Aon¹ identified that business leaders use a variety of methods to identify risk in their business:

- Board and/or management discussion of risk during annual planning processes
- Senior management judgement and experience
- Risk information from teams such as internal audit and compliance
- Structured enterprise-wide risk assessment process
- Industry analysis
- External reports

How Risk Identification Can Add Value to Your Business

For time invested in risk assessment to add value to the business, it is important that risk management is linked to the business strategy and decision-making processes. Risk identification needs to be simple, pragmatic and effective. Risk identification is most successful when undertaken in an interactive and collaborative manner, where senior leaders invest time to discuss risk and opportunity and the potential consequences of each.

Businesses often assess whether the risks are internal to their company, and within their control, or external and therefore beyond their direct control.

Ideally, risks should be grouped into categories, as the table in the example below illustrates:

Operational	Financial	Strategic	Hazard
Project management	Credit	Brand and reputation	Health & Safety
Environmental compliance	Foreign Currency	Key customers	Business Continuity
Industrial action	Liquidity & cash flow	Attracting, retaining and developing talent	Employee welfare
Supply chain management	Warranties	Failure of business strategy	Fire
Compliance with regulations	Pensions	Geopolitical instability	Cyber event

Conducting risk assessment helps businesses:

- evaluate and prioritise risks
- map current controls against priority risk exposures
- identify risk control improvement opportunities
- define key solutions and principal requirements of risk control
- identify opportunities to improve the company's approach to managing business risks.

1. Aon's Global Risk Management Survey 2019

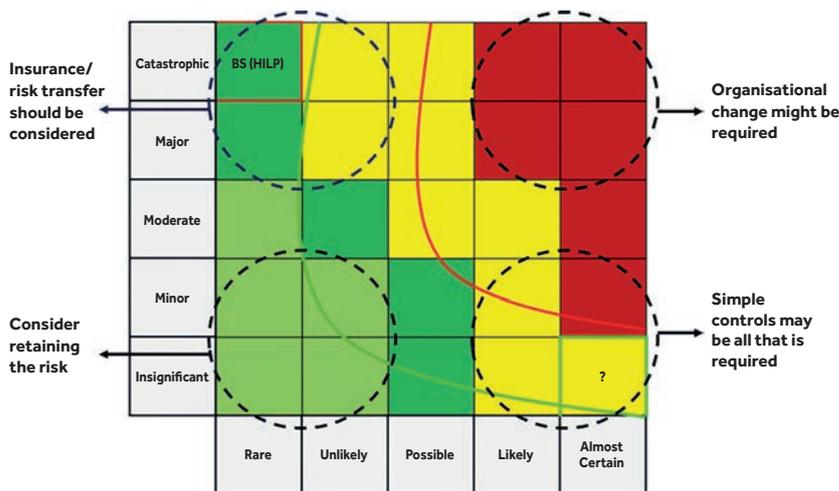
Creating a Risk Register

In our experience, conducting a risk identification and assessment workshop annually is one of the most effective ways a company can identify its risk exposure. Simply put, this involves a cross-functional senior team getting together to discuss risk. Various teams often prepare in advance of the session. For example, HR will assess all the people and talent related risks before the session, similarly the sales team will consider commercial risk, so when the group comes together a holistic view of the business risk is discussed. That way challenging external risks such as climate change, or trade wars, can be considered by the business.

One of the simplest and most effective ways to assess the impact of risks identified is to present the top risks (maximum of 20) on a heat map, with the vertical axis showing severity (impact) and the horizontal axis showing likelihood, as per the graphic above. Each numbered circle represents a risk. Those risks that are in the top right are the ones management should focus on – risks that are highly likely to occur and will have a severe impact.

The output from this workshop is a risk register, which should:

- Describe the risk succinctly in the form of a risk statement – for example 'Failure to attract, retain and develop high calibre staff will result in poor service to customers'. The risk statement describes the risk, and the consequence and impact of the risk.
- Many businesses will have a variety of mitigations in place



to manage each risk identified. For example, a common risk is the risk of a fire at a critical location – mitigations include having property insurance in place to cover the rebuilding cost, risk management strategies including fire separation walls and sprinkler systems, and business continuity plans (for critical processes or locations).

- The next step is to identify further controls, or mitigants, to help to manage the risk. For the talent example:
 - Better clarity on pay and rewards structure
 - More visibility of senior management team
 - Improve internal recruitment and promotion process

The final step to ensure risk is managed within the business is to assign an owner to each risk. This ensures accountability for measuring and managing the risk and is a simple and effective way to managing progress with risk improvement initiatives.

Horizon Scanning for Emerging Risks

A significant benefit of successful risk identification is that it enables continuous scanning of the 'horizon'. To keep risk registers alive in your business, an important element of risk identification is to maintain an emerging risk inventory.

Emerging risks are defined as 'those risks that have not yet been recognised, or those which are known to exist, but are not well understood'. Emerging risks bring:

- high level of uncertainty and volatility
- lack of consensus
- unique organisational impact
- difficult to communicate

Best practice suggests that organisations continuously keep their risk registers up to date, challenged and embedded within their risk management. 🟩

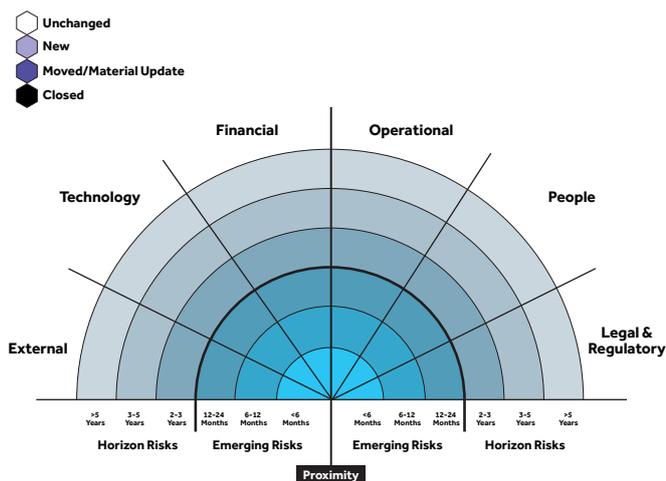


Figure 2. Emerging Risk Analysis Framework.

For further information:

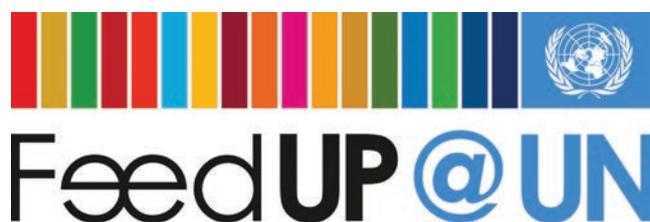
Ciara Jackson, EMEA Food, Agribusiness & Beverage Practice Leader, Risk Consulting Leader, Aon Ireland, ciara.jackson@aon.ie, T: +353 1 2666870.

FeedUP@UN - Stepping Up for Our Planet and Against Food Loss

**LILIANA ANNOVAZZI-
JAKAB
& KAMOLA
KHUSNUTDINOVA**

Both Liliana and Kamola work in the Agri Unit at the United Nations Economic Commission for Europe (UNECE).

Liliana serves as the Head of the Agri Unit.



On 29 September 2020, the first International Day of Awareness of Food Loss and Waste Reduction, United Nations Secretary-General Antonio Guterres called for bold action and “new approaches to reduce food loss and waste for the benefit of our planet” referring to the food loss crisis as “an ethical outrage”.

“Food loss and waste also squanders natural resources –water, soil and energy, not to mention human labor and time. It worsens climate change, given the significant role of agriculture in generating greenhouse gas emissions,” added Mr. Guterres, encouraging collaboration across sectors –public and private.

Stepping up for the planet is therefore not only a duty but requires concrete urgent action to tackle questions such as: What if we could eat all the food that is grown but it never reaches the consumer because it disappears from the supply chain between the farm and the shop? What if we could use the significant economic, natural and human resources wasted on growing the “invisible” food lost along the supply chain? And what if we could measure and quantify these losses and identify the critical loss points, i.e., “hotspots”? These and many other questions led the United Nations Economic Commission for Europe (UNECE) to design FeedUP@UN, an innovative digital platform that measures food loss and helps redistribute the currently lost invisible food.

Food loss and waste refers to the food that is never harvested; food that is discarded before it even travels to distribution centers; and food that is removed from supermarket shelves before anyone can buy it¹. It occurs much earlier than a salad tossed away by the consumer, or an apple not sold in the supermarket. The food lost as a result of poor agricultural practices, disrupted food supply chains, overproduction and inadequate storage or transport remains largely invisible. It is the nut not marketed because it had too many spots or scuffs, or the mango wrongly transported and stored. This represents a massive burden on the environment and our natural resources.

1. Food and Agriculture Organization of the United Nations (FAO)

According to the Food and Agriculture Organization of the United Nations (FAO), the estimated gross value of global (primary) agricultural production is over \$5 trillion annually. One third of food produced for human consumption—around 1.6 billion tons (Boston Consulting Group)—is lost or wasted every single year. According to the FAO, nearly 14% of the world’s food is already lost between production and the retail level and these numbers can be doubled in certain regions. The share of greenhouse gas (GHG) emissions caused by food produced but never consumed is currently estimated by the FAO at 8% and continues to grow.

The lack of precise, systematic and reliable data on food loss and waste has been a challenge over the past decades for policy makers and businesses alike, and it might be one of the reasons for the absence of strong reduction drives. In the meantime, 820 million people are undernourished or hungry, the world population is growing, and the disruption of global food systems during the COVID-19 pandemic widened the gap between overproduction, food loss and malnourished populations. There is enough food for everyone—but we need to change our way of doing things.

Stepping up for food loss prevention, transforming the production and consumption patterns and keeping as much food as possible in the human consumption chain is one solution and has been on top of UNECE’s agenda since 2013. UNECE has already developed a simple food loss and waste measuring methodology, a Code of Good Practice to reduce fresh food losses, launched the #saveinvisiblefood campaign and during the past 2 years designed and launched FeedUP@UN.

The vision of FeedUP@UN is to develop a strong ecosystem for inclusive and sustainable food production and consumption with enough food for everyone. The mission of FeedUP@UN is to reload food lost and waste for a sustainable future by bringing all relevant stakeholders together towards re-imagining our entire food system. Its goal is to make invisible food available, and to ensure universal access to nutritious and healthy food by managing food loss, waste and surplus food.

FeedUP@UN is the first blockchain-powered solution that identifies, quantifies, and traces the invisible food. Integrated with commercial or food bank marketplaces, it also allows for the surplus food to be re-distributed. Its

analytical features help assess, prevent and address food loss in supply chains, enhance strategic planning, improve efficiencies, reduce financial losses and create new opportunities.

Collecting real-time accurate data on where food disappears from the supply chain, FeedUP@UN integrates with online marketplaces in order to redistribute otherwise discarded food for upcycling (drying, juicing or processing) or to foodbanks. This allows for the revalorizing of potential losses by linking supply with demand, it also allows for innovative diversification of product development and access or expansion of new market segments that could even unlock potential support from public funding instruments.

FeedUP@UN also offers an opportunity for governments and business to demonstrate Sustainable Development Goals progress as well as showcase social impact and corporate responsibility.

Public-private partnerships like FeedUP@UN will help to bridge those gaps while contributing to improved food loss data, enhanced sustainability and a reduced environmental footprint. ■



‘Experience the difference’

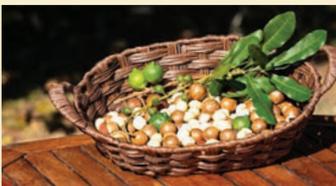
Waring family...

- 55 years of experience in the procurement, processing and marketing of nut crops
- Handlers of Australian macadamias since 1978
- Growers, processors and marketers of Australian macadamias
- Exporters of Australian macadamias globally

Partnering with Australian growers and marketing today, for the future of the Australian macadamia nut industry.

A 100% Australian owned family business

Contact **Andrew Waring**
 Director – Manager Strategic Sourcing and Marketing
 andrewwaring@mwtfoods.com · www.mwtfoods.com






MWT Macadamia - Australia

Australian-based with a global focus, MWT Foods is an industry leader delivering food supply solutions to customers around the world. Our 50-year heritage in the food business is built on trusted service and innovation.

MWT Macadamia is a dedicated MWT Foods division, proudly working on behalf of our Australian Macadamia growers, sourcing, processing & selling Australian macadamias into global markets.

Our MWT Macadamia office is located in the heart of Australian macadamia farming country, in the Northern Rivers region of New South Wales, Australia. Via MWT Agri, we are 'on the farm' with growers, allowing us to source the highest quality product and support the industry to grow sustainably with market demand.



Laurel Foods - U.S.A.

Laurel Foods is a growing, value-added hazelnut processing company located in the farming community of Laurel, Oregon, USA.

A partnership between two family businesses (Denfelds & Warings), Laurel Foods has its roots in the Oregon hazelnut growing region of the lush North Willamette Valley of Oregon.

The 28,000 sq ft facility is located on one of the Denfeld family hazelnut farms in Laurel.

The Denfeld family has been farming in Oregon for six generations and has helped Laurel Foods to be a vertically integrated organization, bringing the hazelnuts & walnuts from the orchard directly to the market.

The value of Laurel Foods comes from its farming heritage and is based on quality, respect, trustworthiness, and integrity.



Importaco Counts on Energy Efficiency to Reduce its Emissions

After launching its Strategic Energy Efficiency Plan in 2018, Importaco has managed to reduce its energy consumption by 10%, ceasing to emit more than 1,700 tons of CO₂ annually.

Importaco's Strategic Energy Efficiency Plan contains the keys to using energy more efficiently and responsibly. By optimizing the use of energy resources and reinforcing investments in sustainability, the company has improved its production centers from a technical, economic and environmental point of view. With these measures, Importaco has avoided emissions of 3,360 tons of CO₂ and 9,250 MWh energy savings.

In addition, the electrical energy consumed at Importaco is of renewable origin, and the group has photovoltaic solar energy generation plants that have generated 1,155 MWh in the last year. One of the most outstanding investments in this matter has been the installation of 765 photovoltaic panels to feed the irrigation system with solar pumping at Importaco Terra's almonds orchards.

Importaco has systems that identify the energy consumption of each product, which allows the creation of energy efficient processes. Through projects such as Almond Life Cycle Analysis, the company has evaluated the product's carbon footprint and its environmental impact. This product is produced at the Vall d'Alba plant (Castellón) where Importaco has a biomass boiler to produce more than 4.000 MWh of thermal energy of renewable origin per year.



IMPORTACO

The Impact of Environmental Changes on Yields and Nutritional Quality of Fruit, Nuts & Seeds

DR. CARMELIA ALAE-CAREW

Dr. Carmelia Alae-Carew is a GP and Associate Nutritionist. She currently works as a research assistant in nutrition and sustainability at the London School of Hygiene and Tropical Medicine.

Without adaptation strategies, environmental changes will have a substantial negative effect on the availability and nutrient levels of fruits, nuts and seeds which are important components of a healthy diet.

Many scientific studies now demonstrate that the planet's environment is changing rapidly, and that this poses a growing risk to human health. An indirect effect on human health will arise from the impact of environmental changes on the food supply. Changes such as agricultural land degradation, water shortages, rising temperatures and changing rainfall patterns can affect yields and nutrient levels of crops which are important for human health, such as fruit, nuts and seeds. Fruits are a particularly vital source of micronutrients, which are important in maintaining a balanced diet and preventing diseases of deficiency. Nuts and seeds provide an energy-dense and long shelf-life alternative to animal products as a source of protein and other nutrients. Consumption of fruit, nuts and seeds along with other nutritionally important food groups such as vegetables and legumes, is known to decrease the risk of noncommunicable diseases such as heart disease. Micronutrient deficiencies and noncommunicable diseases are currently major public health concerns worldwide, and a climate-induced decrease in consumption of these food groups will likely result in a greater burden of disease.

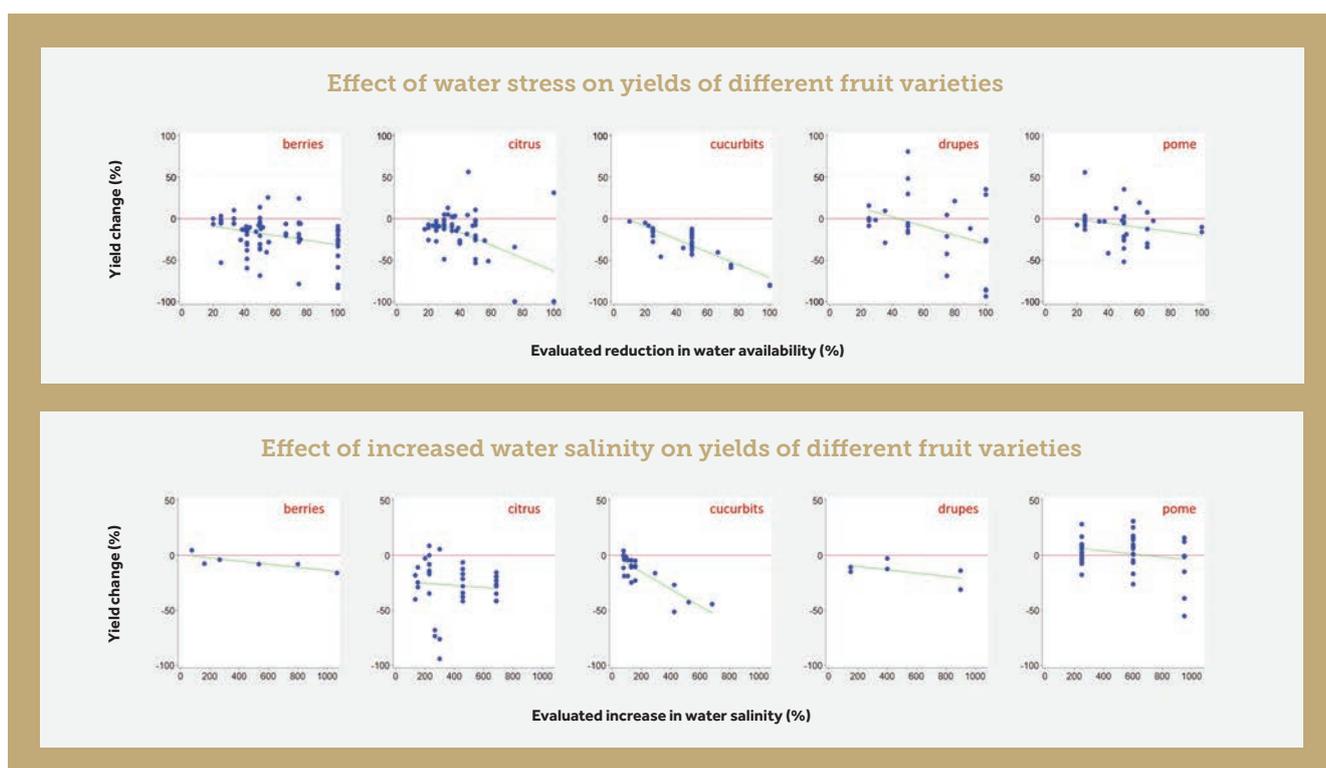


Figure 1. Change in yields of fruit crop groups in response to reduced water availability and increase water salinity¹.

Fruit, nuts and seeds, like many other crops, are sensitive to changes in environmental factors throughout the year. The number of hot days, changes in minimum and maximum daily temperatures, and reductions in winter chill, for example, can affect cultivation and fruit development.

Researchers from The London School of Hygiene and Tropical Medicine¹ set out to further explore the effect of environmental changes on yields and nutritional quality of fruit, vegetables, legumes, nuts and seeds by reviewing and synthesising the currently available scientific evidence published on this topic, in order to provide an overview of what the combination of evidence is showing. A systematic search of published scientific literature found studies that had examined the effect of a change in one or more environmental stressors (namely water availability, carbon dioxide concentration, tropospheric ozone, water salinity, and ambient temperature) on yield or nutritional quality of crops contained within these food groups. Two separate reviews were conducted –one focusing on vegetables and legumes, and the other on fruit, nuts and seeds. Although technically classified as legumes, peanuts were included within the second review because they are commonly eaten as nuts. Where possible, the results of the different studies included in the reviews were synthesised to

produce mean changes in yields and nutrient concentrations.

The review on fruit, nuts and seeds found that the yield of the fruit, nut and peanut groups studied decreased in response to reduced water availability and increased water salinity (Figure 1 & 2). An increase in ozone concentration also resulted in decreased fruit, peanut and linseed yields, and a reduction in ambient temperature decreased fruit and peanut yields, but no studies were performed on (other) nuts and seeds. Interestingly, increased carbon dioxide concentrations actually showed a positive effect on berries and peanut yields, but when combined with other environmental stressors such as increased ozone concentration or ambient temperature, this positive effect was lost. Although not many studies looked the effect on nutritional quality, synthesising the evidence from the small number that looked the impact of a combination of environmental stressors on fruit crops demonstrated a negative effect.

“This suggests that –without any adaptation strategies– in the future fewer nutrients will be obtained from eating the same amount of fruit as we do currently.”

As all the studies included in the review were experiments, they

represent the hypothetical situation of a certain level of environmental change, but with no new agricultural techniques in place that would help adapt to the new environmental circumstances, for example drought or heat-resistant crop varieties. As there is a lot of ongoing research in the agricultural field, this is obviously not very realistic as it is likely that new techniques and technologies will be employed. However, these findings present a picture of what would happen if we do not succeed in attenuating current trends in environmental change, and reinforce the need for adaptation and mitigation strategies, which will depend on an integrated strategy effort across multiple sectors including agriculture, trade and public health.

In conclusion, this review suggests that in the absence of appropriate adaptation strategies, changes to the environment are likely to have a substantial negative effect on yields of fruit, nuts and seeds. This will have far-reaching implications not only for food security due to decreased availability but also for noncommunicable disease risk and suboptimal intake of essential nutrients. With the implementation of successful adaptation strategies, and efforts to attenuate changes to the environment, it is hoped that our food systems will be able to deliver diverse and healthy foods for generations to come. 🟩

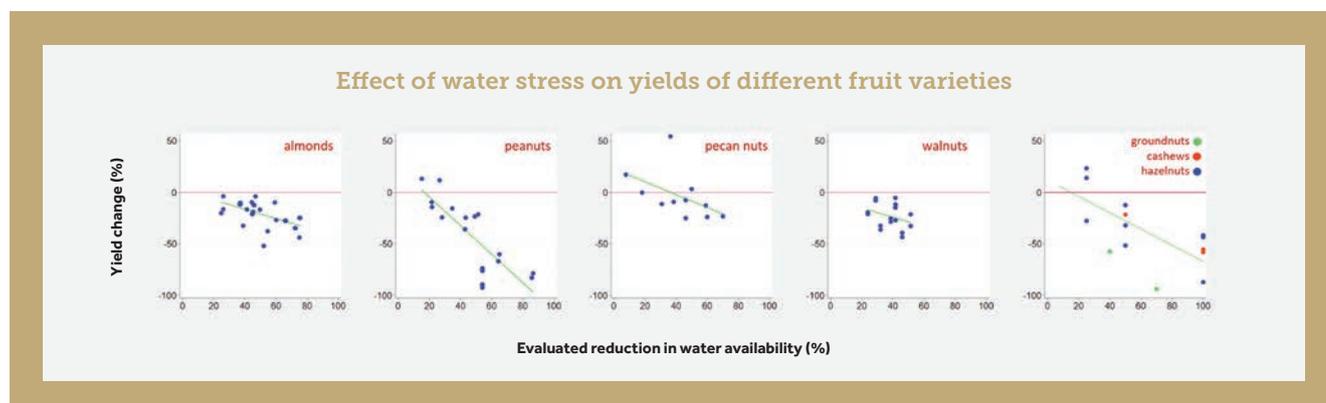


Figure 2. Change in yield of nut crop groups in response to reduced water availability¹.

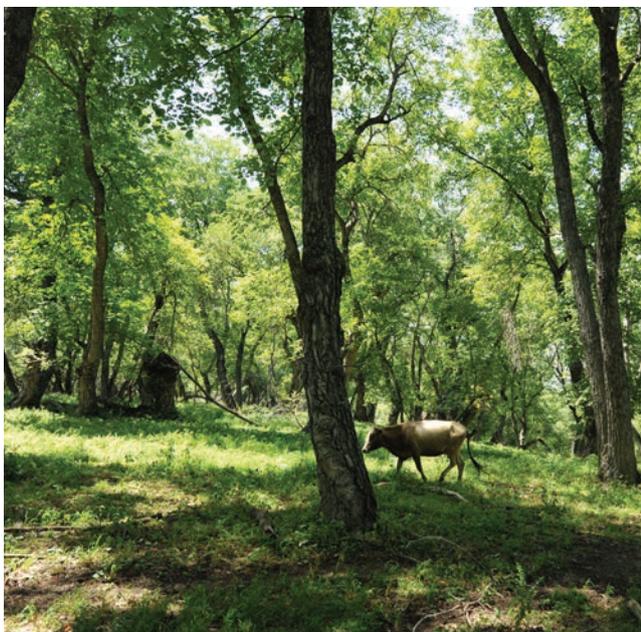
1. Alae-Carew C, Nicoleau S, Bird FA, Hawkins P, Tuomisto HL, Haines A, Dangour AD, Scheelbeek PFD. The impact of environmental changes on the yield and nutritional quality of fruits, nuts and seeds: a systematic review. Environ Res Lett. 2020 Feb;15(2):023002

The Socio-economic Importance of Natural and Planted Walnut (*Juglans regia* L.) Forests in the Silk Road Countries

**DR. DIETRICH DARR
& DR. JYLDYZ SHIGAEVA**

Dr. Dietrich Darr is Professor of Agribusiness at Rhine-Waal University of Applied Sciences, Kleve, Germany. He holds a MSc degree in tropical forestry and received his doctorate from TU Dresden, Germany, with a dissertation on the diffusion of agroforestry innovations in East Africa in 2008. Before his appointment at Rhine-Waal University, he worked for a leading international management consultancy.

Dr. Jyldyz Shigaeva is Research Fellow in Mountain Societies Research Institute, University of Central Asia, Bishkek, Kyrgyzstan. She holds Master's degrees in ecology and defended her PhD in the frame of Swiss National Program (NCCR North-South) in ecology from Soil and Biology Institute of National Academy of Sciences, Kyrgyzstan in 2008. She is highly experienced in inter- and transdisciplinary research projects focused on natural resource management.



Forest pasture causes degradation of the natural walnut forests in Kyrgyzstan
Picture courtesy of Dr. Dietrich Darr

In line with an increasing world demand for walnut kernels, the global area of walnut (*Juglans regia*) plantations has significantly expanded during past decades. At the same time, the natural walnut forests continue to be threatened by deforestation and forest degradation despite their global importance for biodiversity conservation. Which lessons can be drawn from the existing literature for further research, policy and practice of walnut forest management?

Extent of Natural and Planted Walnut Forests

With a total production area of more than 1.3 million hectares in 54 countries in 2019, the common walnut is probably one of the most widely distributed non-wood forest products globally. The species originated from the highlands of Central Asia, Persia and Anatolia, and is naturally distributed in the Silk Road countries. With an area of approximately 40,000 ha, Kyrgyzstan harbors the world's largest natural walnut forests. From there, the walnut has been dispersed by human migration and exchange over millennia along major trade routes that connected the ancient economic and cultural centers of the Eastern and the Western hemisphere. The species' high economic value has incentivized the establishment of walnut plantations in other regions. Global demand for walnuts has increased in line with the growing popularity of more healthy diets and the growth of the urban middle class in countries such as China and India. According to FAOSTAT, the current quantity of production approached 4.5 million metric tons (in shell) in 2019, with the total annual production value ranging from 5.8 to 13.2 billion US\$ between 2016 and 2018. China (56% of global production), the US (13%) and Iran (7%) are the major global walnut producing countries. In China, approximately 90% of the plantations are managed by smallholder farmers¹.

Ecological, Socio-economic and Nutritional Importance of *Juglans regia*

In addition to walnut, the natural walnut forests of Central Asia are home of several other fruit species. Due to their considerable intraspecific diversity, these forests have been described as an important genetic resource and biodiversity

1. Yan, M., Terheggen, A., Mithofer, D., 2017. Who and what set the price of walnut for small scale farmers in Southwest China? *J. Agribus. Dev. Merg. Econ.* 7, 135–152.

resistance of commercial varieties against pests or climate change. Walnut forests also provide important environmental benefits, as they reduce the seasonal variations of water flows, stabilize slopes, and sequester carbon.

The natural and planted walnut forests also possess significant socioeconomic importance for rural populations in terms of employment and income, and food security. They also contribute to foreign exchange earnings at the national level. For example, more than one million people living in and around these forests in Kyrgyzstan directly or indirectly benefit from the collection of walnuts and other forest products such as timber, firewood, forest fruits and feed, and approximately 16,000 rural smallholders are directly involved in walnut collection, cracking, trading or temporarily employed in local processing enterprises.

Two Opposing Trends

While natural walnut forests have been dramatically affected by deforestation and forest degradation for centuries, the area of planted walnut forests is increasing globally. Market forces such as the demand for luxury furniture in Europe, changing climatic conditions, rapid population growth and agricultural expansion, infrastructure development and the socio-political transformations after the breakdown of the Soviet Union were among the most prominent deforestation drivers. Currently, only between 42,000-78,500 ha of natural walnut forests remain in the Silk Road countries.

At the same time, ambitious walnut plantation programs have been implemented in some countries, most notably in southwest China. Smallholder farmers received payments for ecosystem services when they established walnut plantations on steep farmland, and the local walnut processing industry was developed to increase domestic demand for walnut kernels, rural employment and the supply of processed walnut products to domestic consumers. These policies also promoted the consumption of walnuts through TV ads and public campaigns such as the 'China Healthy Nut Day'. Consequently, China displaced the US as the leading global walnut producer in the 1990s.

Challenges Facing the Walnut Sector

Forest products collected from the natural walnut forests are often characterized by low and fluctuating yields, and inferior product characteristics compared to cultivated products. In many Silk Road countries, post-harvest, storage and market facilities for nuts are dilapidated, local processing technologies outdated and the profitability of processing enterprises low. Hence, these enterprises hardly invest in R&D and product development and many of their products don't meet the hygienic or quality requirements of high-value international markets.

Moreover, the management of the natural walnut forests is currently not sustainable. Common management problems include overgrazing, illegal logging and overharvesting of commercialized forest products, which negatively affect forest regeneration and biodiversity. Walnut plantations in many Silk Road countries demonstrate remarkably lower yields compared to commercial plantations in other areas, pointing at a common lack of technology and management, such as suitable propagation methods, standard root stocks and cultivars, irrigation, fertilizer or pesticides.



A local smallholder on his walnut orchard in Kyrgyzstan
Picture courtesy of Dr. Jyldyz Shigaeva

Lessons for Research, Policy and Practice of Walnut Forest Management

At the supply side, conducive economic policies, well-funded breeding and extension programs and incentive schemes that compensate land users for the environmental services their walnut plantation provide to society could effectively increase the area of walnut plantations and diversify farming systems and rural incomes in some Silk Road countries. At the demand side, investment in product development and quality improvements to meet consumer preferences, and the development of a domestic processing industry and/or export opportunities are required to create stable and attractive market conditions. Organic, sustainable forest management, Fairtrade and similar certification can potentially enhance value-added and increase the smallholders' incomes from walnut commercialization. However, limited knowledge on the ecology, reproductive capacity and allowable extraction levels in the natural walnut forests currently restrict this potential. As the compliance with such standards can considerably increase the cost of production to smallholders, initial public support may be required to promote organic certification of walnuts from these forests. 🟩

Total Annual Walnut Production (in shell) in the Silk Road Countries

Source: FAOSTAT



This article is based on Shigaeva J, Darr D (2020): On the socio-economic importance of natural and planted walnut (*Juglans regia* L.) forests in the Silk Road countries: A systematic review. *Forest Policy and Economics* 118: 102233. DOI: 10.1016/j.forpol.2020.102233.



GLOBAL SOURCING AND DISTRIBUTION OF
ALL NUTS, SEEDS AND DRIED FRUIT FOR PROCESSORS,
PACKERS, IMPORTERS AND BUYING GROUPS

CALL +44(0)208 2026600 | SALES@KENKKO.COM
WWW.KENKKO.COM

ALMONDS

BRAZIL NUTS

PINE KERNELS

DEHYDRATED FRUIT

PECANS

CASHEWS

MACADAMIA NUTS

PUMPKIN SEEDS

DRIED FRUIT

DRIED APRICOTS

PISTACHIOS

WALNUTS

SUNFLOWER SEEDS

HAZELNUTS

PEANUTS



FROM FIELD TO FACTORY



ANAKENA

Walnuts for your health

www.anakena.cl

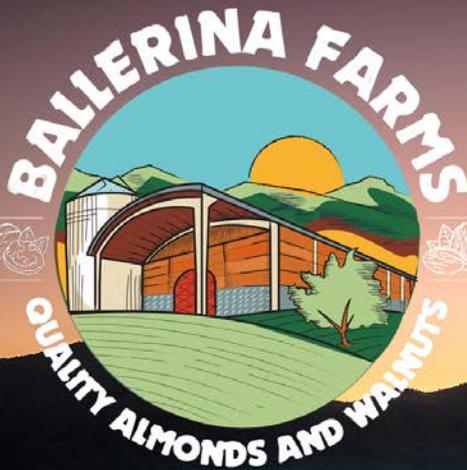
The main processor and exporter of
Chilean Walnuts



Your reliable partner in the Southern Hemisphere



Exportadora Anakena Ltda. • Phone: +56 22 824 37 02 • Email: anakena@anakena.cl • Address: Calle 6 Oriente, Parcela 164, Paine, Chile.



Walnuts & Almonds

From Chile

GROWER, PACKER AND EXPORTER

- Consistent Product Quality
- On-time Delivery
- Excellence in Customer Service



Agrícola Ballerina Chile Ltda. • Phone: +56 22 480 29 33 • Email: Info@ballerina.cl • Web: www.agricolaballerina.cl



Country/Product Spotlight

Walnuts & Chile



This Country Product Spotlight is the fourth in a series of industry and market overviews in the Nutfruit magazine. This report provides a snapshot of the walnut industry in Chile, with data, analysis, and trends.

Industry Highlight

An overview of production, trade and demand

The Chilean Walnut Industry's Adaptation to Climate Change

Discover what the Chilean walnut industry is doing in response to climate change

Walnut and Health: Challenges and Opportunities

Understanding the health benefits of walnuts

New Product Launches

Insights into new products that utilize walnuts

We would like to thank Chilenut for their collaboration in this edition.

Industry Highlight

Chilean Walnut Industry in Numbers

+2,700
orchards

+12.2M
trees planted

+43,300 ha
under planting
(bearing & non-bearing)

130,000 - 150,000 MT
annual production.
(2020-2021 in-shell basis)

128,700 MT
annual exports
(2020, in-shell equivalent)

13%
National Fruit Production
(ranking 2nd after vineyard)

Production

Brought by the Spanish conquerors, the tradition of fruit growing and processing in Chile has its origins in the colonial period. Since the 16th century, the Spanish managed to adapt European fruit trees to Chilean soils and climates, and began the production process. Walnuts had a decisive advantage over stone and pome fruits, as they did not have to face the conservation problems. Within this context, walnut cultivation played an important role in the local fruit growing history and contributed to the foundations for the modern Chilean fruit industry¹.

Jumping into the XX century, in spite of the “fruit boom” of the seventies in Chile, led by vine, apple and stone fruit trees, walnuts were still produced in small volumes, without much technology and were sold mainly to the neighbors Brazil and Argentina. In light of this scenario, the National Agricultural Research Institute, INIA (*Instituto Nacional de Investigaciones Agropecuarias*) decided to lead the technological development of this crop in order for it to become profitable. Aiming to obtain homogeneous plant material, the first step was to implement clonal propagation through grafting of commercial varieties. INIA, with the support of the University of California, in 1984 established the first commercial nursery of grafted walnut trees.

At the same time, technical aspects such as: irrigation; plantation density; pruning; pest, weed and disease control; and, above all, meeting the quality standard of international demand, were fine-tuned, opening the door for the supply of high-quality walnut that currently Chile offers to the world².

Since the late 1970s, with around 4,000 hectares of seed walnut trees and a productivity of less than one metric ton per hectare, Chilean walnut production has grown to over 43,300 ha planted (Figure 1) with grafted trees. National average productivity is estimated at 4.5 MT/ha (weighted based on planted area per region), and with adult orchards yielding up to 8 to 11 MT/ha as stable production, which are among the highest yields in the industry. There are 2,775 reported orchards growing walnuts and weighted average tree density is at 267 trees/ha. Currently accounting for 13% of the national fruit planted area, walnut is the second most cultivated fruit in the country, after grapevine^{2,3}.

Figure 1. Chilean Walnut Planted Area (hectares)

Source: ODEPA, Office of Agrarian Studies and Policies and CIREN, Natural Resources Information Center, Ministry of Agriculture of Chile.





According to the latest ODEPA-CIREN census, the Metropolitan (Santiago) region accounts for 38% of the walnut planted area, followed by O'Higgins, Maule and Valparaíso with 16% each. The remaining 13% is distributed among Coquimbo (6%), Ñuble (3%), Biobío (3%) and Araucanía (1%). Non-significant hectareage in Atacama, Ríos and Lagos complete the total of 43,328 ha of walnut planted area in the country, including non-bearing (23%) and bearing (77%) hectareage (Figure 2).

Regarding varieties, 78% of the overall growing area is planted with Chandler, followed by Serr with 19%. Howard, Cisco and other 23 different varieties account for the remaining 3%.

Over the last 10 years, total production has grown at an average annual rate of 14,000 metric tons (in-shell basis) and it is currently estimated at 135,000 MT (in-shell basis)/67,500 MT (kernel basis). A severe drought in the main walnut production area has affected the 2019/20 crop and is expected to slightly reduce the 2020/21 results as well. All in all, as per Chilenut expectations, 2020/21 crop is likely to hit the 150,000 MT threshold (Figure 3) and to reach between 225,000-250,000 MT by 2030.



Figure 2. Chilean Walnut Planted Area by Growing Regions (hectares)

Elaborated by INC with data from ODEPA, Office of Agrarian Studies and Policies and CIREN, Natural Resources Information Center, Ministry of Agriculture of Chile (2018, 2019 and 2020 surveys).

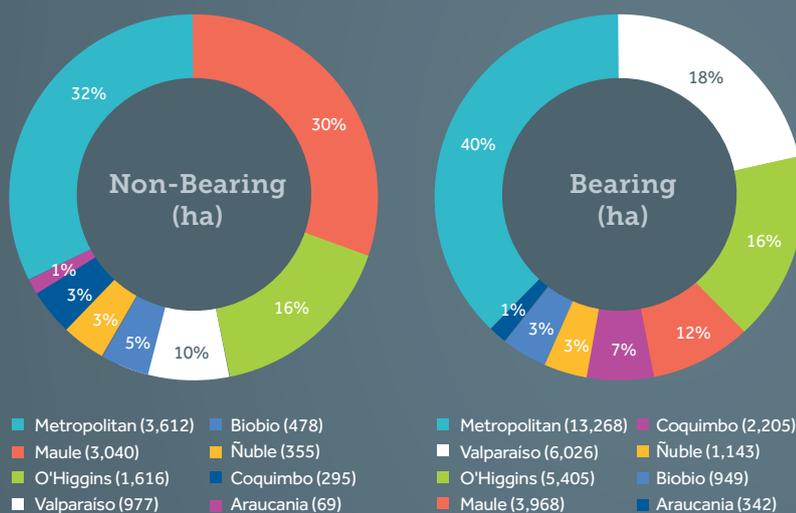


Figure 3. Chilean Walnut Production (Metric tons)

Sources: Chilenut and INC database.



1. Frutos secos en Chile y Cuyo. Nogales, almendros y castaños (1700-1850). Aranda, M, Yuri, J.A., Castro San Carlos, A., Solar, M., Soto, N., Quinteros, K., Gaete, J., Rivas, J., Chávez; C. Lacoste, P.A. (coord.). HIB: revista de historia iberoamericana, Vol. 2, N.º 2, 2009, pp. 38-51. 2. Los aportes del INIA en el desarrollo y auge del nogal chileno. Gamalier, L.S. (2018). Available at: <https://biblioteca.inia.cl/handle/123456789/5440> (Retrieved: January 19, 2021). 3. ODEPA, Office of Agrarian Studies and Policies and CIREN, Natural Resources Information Center, Ministry of Agriculture of Chile.

Trade

Chile is currently the main walnut exporting origin after California and is the top supplier from the southern hemisphere. The counter-seasonal production allows Chile to provide fresh walnuts to the international market during the northern hemisphere off season⁴; and this fact is clearly reflected in this origin's exports progression.

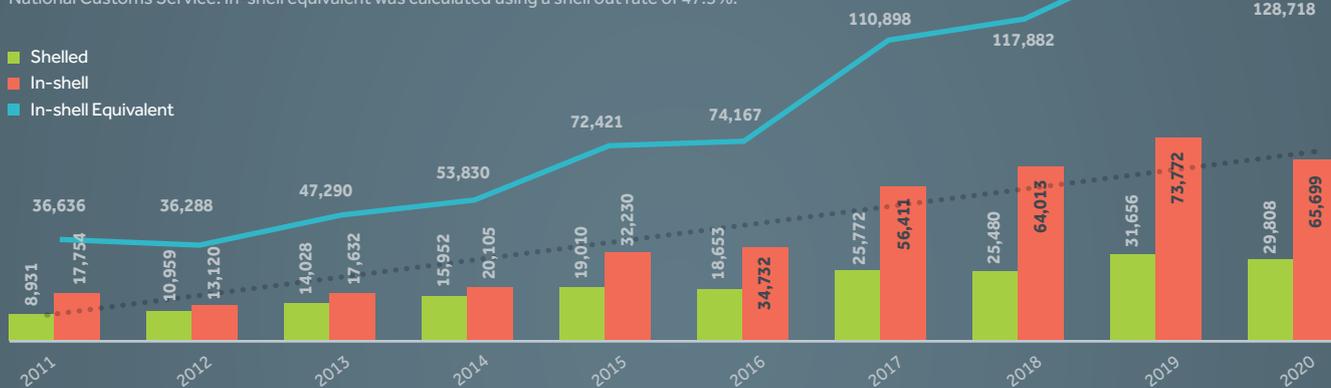
As reported at the ODEPA international trade database, total exports in 2020 added up to 128,700 MT in-shell equivalent, up by 251% compared to 2011. Both in-shell (HS code 080231) and shelled (HS codes 08023210 and 08023290, wholes and halves respectively) overseas shipments have trended positively over the last decade. Shelled exports increased 3.3 times between 2011 and 2020 at an annual average rate of 1,900 MT/year. In-shell exported volumes grew 3.7 times over the same period at a rate of 7,300 MT/year (Figure 4).

Led by Germany, Italy and Spain, and accounting for 45% of the origin's share, Europe is the main destination for Chilean walnuts (in-shell equivalent, 5-year average 2016-2020). Middle East and Africa add up to the following 32%, being Turkey, UAE and Morocco the top buyers (Figure 5).

Chilean walnut industry has grown spectacularly over the last 15 years: Production grew from around 20,000 MT in the 2000's to 80,000 MT in the 2010's, reaching 150,000 MT at the new decade. Current crop levels range between 135,000 MT and 150-160,000 MT depending on environmental interannual variation.

Figure 4. Chilean Walnut Exports (Metric tons)

Sources: ODEPA, Office of Agrarian Studies and Policies, Ministry of Agriculture of Chile and National Customs Service. In-shell equivalent was calculated using a shell out rate of 47.3%.



Total in-shell shipments have grown by 89% over the previous five years. The Middle East/Africa and Asia/Oceania lead the demand, followed by Europe: While Turkey is an established market, exports to the UAE and Morocco increased over the last five years. India, Vietnam and China (mainland), the three top destinations in Asia, also showed a significant growth during the same period. The main in-shell buyers in Europe are Italy, Germany, Spain and Russia, which presented the biggest relative increment (Table 1).

Shipments of shelled walnuts doubled up between 2016 and 2020 and are mainly absorbed by Western Europe. Brazil is the biggest importer in America, while Ecuador seems to be an emerging destination (Table 1).

Figure 5. Chilean Walnut Exports, Top Destinations (In-shell equivalent, Metric tons, average 2011-2020)

Sources: ODEPA, Office of Agrarian Studies and Policies, Ministry of Agriculture of Chile and National Customs Service. In-shell equivalent was calculated using a sellout rate of 47.3%.



4. Chilenut



Table 1. Chilean In-shell and Shelled Walnut Exports 2016-2020

Sources: ODEPA, Office of Agrarian Studies and Policies, Ministry of Agriculture of Chile and National Customs Service.

In-shell Exports (MT)

Destinations		2016	2017	2018	2019	2020
Middle East/Africa	Turkey	22,777	27,101	23,558	18,618	13,196
	UAE	1,555	6,398	7,499	14,328	5,348
	Morocco	814	2,519	4,129	5,502	4,782
	Others	183	416	1,573	2,564	1,377
Sub-total Middle East/Africa		25,329	36,434	36,758	41,011	24,704
Asia/Oceania	India	534	4,826	6,472	4,815	11,062
	Vietnam		345	1,564	5,126	4,645
	China	648	577	1,947	3,611	4,052
	Others	429	210	1,024	1,928	965
Sub-total Asia/Oceania		1,611	5,957	11,008	15,480	20,725
Europe	Italy	4,289	7,261	5,336	7,897	6,688
	Germany	822	1,109	2,562	1,674	3,297
	Spain	856	1,794	2,372	2,252	2,679
	Russia	26	250	909	1,272	1,008
	Others	550	2,040	3,286	2,528	4,642
Sub-total Europe		6,544	12,454	14,465	15,623	18,314
America	Brazil	740	675	693	523	818
	Peru	314	449	495	868	685
	USA		317	268	98	296
	Ecuador	28	85	83	114	65
	Others	167	19	244	56	91
Sub-total America		1,249	1,545	1,782	1,658	1,956
Not specified countries			20			
TOTAL IN-SHELL		34,732	56,411	64,013	73,772	65,699

Shelled Exports (MT)

Destinations		2016	2017	2018	2019	2020
Europe	Germany	2,346	7,063	6,545	7,893	7,995
	Italy	1,961	2,076	2,204	2,902	2,435
	Spain	1,077	1,624	1,657	2,843	2,410
	Netherlands	1,946	1,621	1,902	1,542	2,110
	France	820	1,655	1,080	1,221	1,597
	Others	2,583	3,876	4,840	5,850	5,264
Sub-total Europe		10,733	17,916	18,229	22,252	21,810
America	Brazil	3,049	3,156	3,324	3,176	2,698
	Ecuador	502	736	932	1,210	1,219
	Others	891	577	835	1,030	931
Sub-total America		4,441	4,469	5,090	5,416	4,848
Middle East/Africa	UAE	468	872	104	746	595
	Israel	360	179	506	582	414
	Turkey	251	699	157	462	296
	Others	651	459	300	410	342
Sub-total Middle East/Africa		1,730	2,209	1,067	2,198	1,648
Asia/Oceania	India	21	105	135	335	517
	South Korea	1,190	445	223	465	268
	Australia	15	143	62	181	226
	Japan	237	352	366	334	135
	Others	165	132	307	465	353
Sub-total Asia/Oceania		1,748	1,178	1,094	1,780	1,499
Not specified countries					10	4
TOTAL SHELLED		18,653	25,772	25,480	31,656	29,808

The Chilean Walnut Industry's Adaptation to Climate Change



The Following Article Was Written by the Chilenut Team.

Every day, we see how climate change affects a myriad of different aspects of our planet and the lives of everyone on it, and Chile has been no exception.

Chile has been plagued by a drought –some years more intensely than others– for the past ten years. Rainfall levels in the Metropolitan Region, which concentrates the greatest number of walnut orchards at just below 40% of the national total, have dropped down to as low 81¹ mm a year, such as in 2019, when annual averages (1961-1990) should be 313 mm, in other words, we're down to one quarter of our regular numbers.

The Chilean industry's response has been twofold: on one hand, there has been a significant improvement in hydro efficiency –more than 95%² of new orchards have technical irrigation that uses drip or micro-nozzle technology– and on the other, growth is concentrated in new production areas.

Chile has consolidated its position as the number two exporter in the world and the number one grower-exporter in the Southern Hemisphere. Over the past few years, much of this growth has been concentrated in the south of the country, an area that starts in the Region of O'Higgins (100 km south of the capital city of Santiago) and ends in the Araucanía Region (670 km south of the capital). This land poses significant production challenges and limitations when it comes to walnut tree development, but at the same time, it has allowed the country to adapt to climate change, which greatly affects the central part of Chile.

Today, this production zone, which includes the Regions of O'Higgins, Maule, Ñuble and Bio-Bio, concentrates 40% of all national walnut orchards, adding up to 17,000 hectares, even surpassing the Metropolitan Region, where walnut production has traditionally been developed in Chile.

This growth down south and the area's particular production traits have yielded significant technical developments and led to an ongoing search for technological solutions linked to innovation and a constant updating of production management and commercial guidelines, where business is tighter and threats from external factors like climate change limit production, as evidenced by the severe drought that has affected the center and north of the country, slowing down production of a number of different crops, including walnuts.





Land prices, water availability and access to labor are some of the main factors that have driven the growth of walnut trees into the south, an area where walnuts were traditionally not produced due to adverse weather conditions. This has resulted in the development of different technologies and innovations to overcome these limitations. For this very reason, the industry is currently researching and validating the development of orchards managed through high densities, allowing for an early entry into production, with high yields, better quality fruit and low labor costs due to the small size of the trees, which translates to a quick ROI. In addition, these intensive systems permit an early renewal of orchards because the productive life of trees is shortened, paving the way for new developments, such

as other cultivars, clones, mutants, rootstocks or planting systems.

One particularly important aspect –of which there was no past record– is associated to the quality obtained down south, which has been pleasantly surprising over the past few seasons, including sizes and colors above the national average, a testament to the technical work behind the scenes and to the growth in volume that this zone will inject into the market in upcoming years. Another important aspect has been all of the work done to control pests and diseases, as these orchards require untraditional management techniques and ongoing monitoring because the area’s weather conditions are ideal for the development of these problems during certain seasons. 🟩



1. <https://climatologia.meteochile.gob.cl/application/annual/aguaCaidaAnual/330020/2019>
2. <https://www.ciren.cl/proyectos/catastros-fruticolas/>

Valbifrut
Premium walnuts
from Chile

*Quality, Food Safety, Reliability
Since 1978*

 **Valbifrut.cl**

Santa Adela 599, Buin - Chile 🌿 +56 22 8211911
sales@valbifrut.cl



Health Benefits of Walnuts



Walnuts are a tasty and delicious tree nut that offer consumers plenty of potential health benefits. They are high in polyunsaturated fat, fiber, thiamin, vitamin B1, vitamin B6, and minerals such as phosphorus, magnesium, zinc, copper and manganese. In addition, walnuts are a source of iron and potassium^{1, 2}.

Nutrition Research

Over the years, walnuts have become one of the most widely researched tree nuts with extensive scientific studies conducted on the benefits for cardiovascular disease³ and cognitive health⁴, specifically fighting against cognitive decline from ageing. Furthermore, there is research suggesting walnuts can have positive effects on gut health⁵, diabetes and metabolic syndrome⁶, weight⁷, and cancer⁸.

Cardiovascular Health

A newly identified “metabolic signature” can evaluate the individual consumption and metabolic response to walnut consumption and has been associated with a reduced risk of type 2 diabetes and cardiovascular disease, according to new research⁹ in collaboration between Harvard T.H. Chan School of Public Health and two Spanish universities (University Rovira i Virgili and University of Navarra). In the study, a total of 19 metabolites were significantly connected with walnut consumption. This metabolite

profile, which was linked to walnut consumption, was also found to be associated with a decrease in the risk of incident type 2 diabetes and cardiovascular disease among participants with an existing high cardiovascular risk.

Cognitive Function

A new study¹⁰ published in *Public Health Nutrition* explored the relationship between walnut consumption and the cognitive function, focusing on an older population.

The results of the study found that those individuals who consumed walnuts showed higher cognitive scores at the baseline compared to those who did not consume walnuts.

Another study¹¹ suggested that a diet with walnuts can reduce oxidative stress by decreasing the generation of free radicals and by boosting antioxidant defense, thus resulting in decreased oxidative damage to lipids and proteins. This plays an important role in the aging process, mild cognitive impairment (MCI), Alzheimer’s disease (AD), and other brain disorders.

Additional Health Benefits of Walnuts

As previously stated, consumption of walnuts can potentially offer a wide variety of health benefits. Among those is benefits against diabetes and metabolic syndrome. Including walnuts in your diet can be a healthy way to handle problems that arise from diabetes and metabolic syndrome¹². Regarding weight, a study from Beth Israel Deaconess Medical Center and Harvard Medical School suggested that consuming walnuts could reduce hunger by providing a feeling a being full¹³. Moreover, breast cancer¹⁴, colon cancer¹⁵, and prostate cancer¹⁶ have been a focus of animal and cellular based research, showing the potential health benefits of walnuts against these cancers. Gut health is another area where research has suggested walnuts can help. Studies report that adding walnuts to your diet may be associated with positive changes in gut microbiome

^{17, 18} 

1. USDA National Nutrient Database for Standard Reference Legacy Release April, 2018. 2. Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods. 3. Guasch-Ferré, M., Hernández-Alonso, P., Drouin-Chartier, J. P., Ruiz-Canela, M., Razquin, C., Toledo, E., ... & Salas-Salvadó, J. (2020). Walnut Consumption, Plasma Metabolomics, and Risk of Type 2 Diabetes and Cardiovascular Disease. *The Journal of Nutrition*. 4. Bishop, N. J., & Zuniga, K. E. (2020). Investigating walnut consumption and cognitive trajectories in a representative sample of older US adults. *Public Health Nutrition*, 1-12. 5. Holscher, H. D., Guetterman, H. M., Swanson, K. S., An, R., Matthan, N. R., Lichtenstein, A. H., ... & Baer, D. J. (2018). Walnut consumption alters the gastrointestinal microbiota, microbially derived secondary bile acids, and health markers in healthy adults: a randomized controlled trial. *The Journal of nutrition*, 148(6), 861-867. 6. Arab, L., Dhaliwal, S. K., Martin, C. J., Larios, A. D., Jackson, N. J., & Elshoff, D. (2018). Association between walnut consumption and diabetes risk in NHANES. *Diabetes/metabolism research and reviews*, 34(7), e3031. 7. Stevenson, J. L., Paton, C. M., & Cooper, J. A. (2017). Hunger and satiety responses to high-fat meals after a high-polyunsaturated fat diet: a randomized trial. *Nutrition*, 41, 14-23. 8. Hardman, W. E. (2014). Walnuts have potential for cancer prevention and treatment in mice. *The Journal of nutrition*, 144(4), 555S-560S. 9. Guasch-Ferré, M., Hernández-Alonso, P., Drouin-Chartier, J. P., Ruiz-Canela, M., Razquin, C., Toledo, E., ... & Salas-Salvadó, J. (2020). Walnut Consumption, Plasma Metabolomics, and Risk of Type 2 Diabetes and Cardiovascular Disease. *The Journal of Nutrition*. 10. Bishop, N. J., & Zuniga, K. E. (2020). Investigating walnut consumption and cognitive trajectories in a representative sample of older US adults. *Public Health Nutrition*, 1-12. 11. Chauhan, A., & Chauhan, V. (2020). Beneficial Effects of Walnuts on Cognition and Brain Health. *Nutrients*, 12(2), 550. 12. Arab, L., Dhaliwal, S. K., Martin, C. J., Larios, A. D., Jackson, N. J., & Elshoff, D. (2018). Association between walnut consumption and diabetes risk in NHANES. *Diabetes/metabolism research and reviews*, 34(7), e3031. 13. Brennan, A. M., Sweeney, L. L., Liu, X., & Mantzoros, C. S. (2010). Walnut consumption increases satiation but has no effect on insulin resistance or the metabolic profile over a 4-day period. *Obesity*, 18(6), 1176-1182. 14. Hardman, W. E., Ion, G., Akinsete, J. A., & Witte, T. R. (2011). Dietary walnut suppressed mammary gland tumorigenesis in the C (3) 1 TAG mouse. *Nutrition and cancer*, 63(6), 960-970. 15. Nakanishi, M., Chen, Y., Gendro, V., Miyamoto, S., Weinstock, E.,



Walnuts



KEY FACTS



CARDIOVASCULAR HEALTH

Several scientific studies have observed that consuming walnuts can be beneficial for cardiovascular health due to the omega 3 acids that are found in walnuts.



COGNITIVE FUNCTION

Research suggests that polyphenols, tocopherols and polyunsaturated fatty acids found in walnuts may contribute to better cognitive function.

HIGH IN: Polyunsaturated fat, fiber, thiamin, vitamin B1, vitamin B6, and minerals such as phosphorus, magnesium, zinc, copper and manganese.

SOURCE OF: Iron and potassium.

Weinstock, G. M., & Rosenberg, D. W. (2016). Effects of walnut consumption on colon carcinogenesis and microbial community structure. *Cancer Prevention Research*, 9(8), 692-703. **16.** Sánchez-González, C., Izquierdo-Pulido, M., & Noé, V. (2016). Urolithin A causes p21 up-regulation in prostate cancer cells. *European journal of nutrition*, 55(3), 1099-1112. **17.** Holscher, H. D., Guetterman, H. M., Swanson, K. S., An, R., Matthan, N. R., Lichtenstein, A. H., ... & Baer, D. J. (2018). Walnut consumption alters the gastrointestinal microbiota, microbially derived secondary bile acids, and health markers in healthy adults: a randomized controlled trial. *The Journal of nutrition*, 148(6), 861-867. **18.** Byerley, L. O., Samuelson, D., Blanchard IV, E., Luo, M., Lorenzen, B. N., Banks, S., ... & Taylor, C. M. (2017). Changes in the gut microbial communities following addition of walnuts to the diet. *The Journal of nutritional biochemistry*, 48, 94-102.

Walnut Bread with Peanut Butter

Ingredients (8 servings):

- 500 g flour
- 125 g fine, whole-wheat flour
- 125 g course, whole-wheat flour
- 10 g fresh yeast or ½ packet of dry yeast
- ½ tbsp. olive oil
- ½ tbsp. salt
- 500 ml water
- 1 cup walnuts, chopped
- 2 tsp. peanut butter
- 1 banana

Method (5 hours):

Blend all the ingredients, except the walnuts, banana, and peanut butter in a large bowl. Then place the dough out onto a floured surface and press it into a rough square. Sprinkle the walnuts over the surface and roll up the dough. Next, knead briefly again to ensure the walnuts are thoroughly distributed throughout the dough.

Once you have kneaded, shape the dough into a ball, place in a greased bowl and cover with a tea towel. Let the dough rise in a warm place for about 3 hours. When it has finished rising, divide it into 2 equal parts and roll each into a ball. Place them on a baking sheet with enough space in between to allow them to double in size. Sprinkle plain flour and leave them uncovered for 1 hour.

Preheat the oven to 240°C. Place the bread on the bottom rack of the oven and immediately drop the temperature to 200°C. Bake for 40 minutes. Allow the loaves to cool before serving. Cut two slices, spread over some peanut butter and top with a sliced banana.





In times of uncertainty like the ones we are living, rely on those in whom you trust the most.

**Invernada,
your reliable partner**



GROWER



PACKER



EXPORTER



invernada

Inshell | Machine Cracked | Hand Cracker



HIGHEST
INTERNATIONAL
STANDARDS

www.lainvernada.com

csocias@lainvernada.com
info@lainvernada.com



New Product Launches

While walnuts are one of the most scientifically researched nuts in the world, they also are a focal point for new product developments. Nowadays, walnuts are being used for a wide variety of items, including but not limited to dairy-alternative beverages, cooking oil, and skincare. As walnuts also offer a wide range of health benefits, many producers around the world are looking how to include them in new consumer products, like energy bars. When walnuts are included in consumer products, they provide a great taste and many potential health benefits.

As more uses of walnuts are explored, and the health benefits continue to be promising, we can expect many companies around the world to further research in product development. Below are some products that have been launched from various regions of the world. 🟩



ERapeutics's BrainMilk (USA):

BrainMilk® is a dairy-alternative functional beverage that incorporates concentrated walnut phytonutrients into a low-calorie, ready-to-drink beverage for cognitive health. Each serving contains 1,200mg of ALA Omega-3s. <https://erapeutics.com/>

Emile Noël's Organic Virgin Walnut Oil (France):

100% organic virgin walnut oil. Walnut oil is rich in alpha-linolenic acid (Omega 3), which is not very common but is essential for the body. This first cold pressed oil enhances the taste of your vegetables at the end of cooking and will give a sweet and light taste to your salads. <https://www.emilenoel.com/en/produits-2/nos-huiles biologiques/nos-huiles-selection/huile-de-noix-vierge-bio/>

King Valley Walnuts' Pickled Walnuts (Australia):

An old English favorite being re-discovered by today's chefs. The young green walnut fruits are pickled in sweet vinegar and spice mix in our farm kitchen. Great as an antipasto or with biscuits and cheese. Use the spiced vinegar for a salad dressing base or add a special flavor to a beef casserole. <https://kingvalleywalnuts.com.au/product/pickled/>

Chimpanzee's Raisin & Walnut Energy Bar (Czech Republic)

An old-fashioned delight full of surprises. Treat yourself to a great tasting energy bar full of walnut chunks and whole raisins. The Chimpanzee Energy Bar Raisin & Walnut contains protein and fiber and is a great source of natural energy. <https://www.chimpanzeebar.com/product-page/raisin-walnut>

EXPECT BIG THINGS



CUSTOMER SERVICE

FOOD SAFETY

INNOVATION

QUALITY

- 30 years of proven results and customer satisfaction
- SQF certified - **excellent** rating
- Built on a commitment to innovation and cutting-edge technology
- Specializing in high-quality confectionery and low foreign material applications



C A L I F O R N I A A L M O N D S

137 North Hart Road | Modesto, California 95358 USA
Phone 1.209.527.0108 | Fax 1.209.527.8616
www.fishernut.com | email: sales@fishernut.com | Product of the USA



Key Technology, a member of the Duravant family of operating companies, introduces the first VERYX® BioPrint® digital sorter. As the world's only sorter that can combine near infrared (NIR) hyperspectral detection with color cameras in every image pixel, VERYX BioPrint analyzes a richer set of data about the materials it is sorting to improve detection performance and maximize process yield. Sorting walnuts, almonds, pistachios, cashews and other nuts, VERYX BioPrint removes shells, rocks, sticks, glass, plastics, moisture-related defects, insect and other surface damage, rot, mold and more while color grading and shape sorting to meet even the most stringent product quality specifications.

"Our new proprietary BioPrint hyperspectral imaging system gives us superior flexibility to tailor optimal sort solutions for each customer application," said Marco Azzaretti, Director of Marketing at Key. "Nut customers are already using VERYX BioPrint in their operations and have proven its success – they're experiencing outstanding product quality and ease of use."

The accuracy of the BioPrint detection system is complemented by VERYX's high-resolution ejection system, which features minimal spacing between air nozzles to better target objects identified for removal without inadvertently sorting out good product. Intelligent software manages the air nozzles' actuation strategy to suit the objects' size, shape and weight. The combined precision of VERYX's detection and ejection systems results in the most complete removal of shell and FM with the highest good product yield.



CLEAR VISION TO MAXIMIZE YIELD

Want to raise productivity and reduce waste? Key Technology's cutting-edge optical sorting and conveying solutions set the standard for maximizing yield, efficiency and profitability. At the same time, they deliver data-driven intelligence to continually optimize and improve your operations.

[Start your progress at Key.net](https://www.key.net)

SORTING | CONVEYING | INTEGRATED SOLUTIONS

Clear Vision, Clear Progress



© 2021 Key Technology



Protective Effects of Nut Consumption in Cognitive Dysfunction

PHD STUDENT CARLOS GÓMEZ-MARTÍNEZ AND PROF. JORDI SALAS-SALVADÓ

Human Nutrition Unit, Department of Biochemistry and Biotechnology, Hospital Universitari de Sant Joan de Reus, Faculty of Medicine and Health Sciences, IISPV Institut d'Investigació Sanitària Pere Virgili, Universitat Rovira i Virgili, Reus (Spain). CIBER Obesity and Nutrition Network (CIBEROBN), Carlos III Health Institute, Madrid (Spain).



Prof. Jordi Salas-Salvadó

Dementia is a major public health problem and non-pharmacological treatments are currently effective. Nut consumption is presented as a possible protective factor for neurodegeneration due to an improvement on cognitive function.

Cognitive dysfunction is characterized by decrements in cognitive abilities, ranging from subtle cognitive impairments to dementia, the most severe form of neurodegeneration. Dementia is one of the major causes of disability and dependency among older people worldwide, affecting memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgement. The impairment in cognitive function is commonly accompanied, and occasionally preceded, by deterioration in emotional control, social behavior, or motivation. Nowadays, around 50 million people have dementia and every year there are nearly 10 million new cases. The total number of people with dementia is projected to reach 82 million in 2030 and 152 million by 2050, and it was estimated to have an impact of 818 billion dollars on the global economy in 2015, increasing to 2 trillion dollars in 2030¹.

Furthermore, it is important to point out that there is no effective pharmacological treatment for neurodegeneration². Therefore, it is crucial to identify the initial stages of cognitive dysfunction in the population at risk to promote healthier lifestyle habits which may slow or ameliorate the progression of cognitive dysfunction. One of these favorable lifestyle characteristics is the Mediterranean diet, which is widely known for its beneficial effects in neuropsychological function³. In fact, emerging epidemiological and clinical trials suggest that long-term consumption of nuts, a characteristic compound in the Mediterranean diet, may improve cognitive function as well as reduce cognitive dysfunction⁴.

The biological mechanisms underlying this benefit are not well established yet. Nevertheless, frequent nut consumption has been shown to have a potential role in the reduction of oxidative stress and inflammation, protecting against mitochondrial dysfunction and neural damage due to the high concentrations of antioxidants including polyphenols, vitamins, and mono- and polyunsaturated fatty acids (MUFA and PUFA). Specifically, MUFA has been demonstrated to improve pancreatic β -cell function and insulin sensitivity, whereas PUFA might act on the central nervous system protecting neuronal and cell-signaling function and maintenance⁵. Then, the β -amyloid accumulation on the central nervous system, the main characteristic of the most prevalent manifestation of dementia (Alzheimer disease), might be reduced indirectly with the consumption of nuts through an enhancement in the insulin sensitivity in brain and pancreas by MUFA, while PUFA may allow optimal communication between neural cells due to an improved cell-signal.



A recent paper has reviewed all the studies analyzing the beneficial effects of walnuts on neuropsychological dysfunction⁶. The review showed favorable associations between walnut consumption and neuropsychological function for both animal and human studies. When Alzheimer disease was experimentally induced in mice, the animals that were fed walnuts during the 14-month showed an improvement in memory, learning skills, motor development, and anxiety-related behavior compared with control diets without walnuts. In another study with aged rats (19 months old), it has been observed that walnut supplementation induces improvements in cognitive and motor performance. Concerning humans, three clinical trials have shown better cognitive function in those participants with long-term consumption of nuts compared with participants avoiding nuts. Specifically, some of them find positive effects on verbal skills and memory function. Moreover, a short-term study of 8 weeks showed that both younger (20-59 years) and older (≥ 60 years) populations present higher cognitive scores after nut supplementation compared with those that do not have been supplemented.

The most recent large randomized controlled trial (RCT) performed evaluating the effects of nut consumption on cognitive function is the Walnuts And Healthy Aging (WAHA) study⁷. This kind of experimental design (RCTs) provides the strongest scientific evidence of effects and can be used to give population recommendations in the future. WAHA was conducted in Barcelona (Spain) and Loma Linda (California). It is a RCT of 2 years of follow-up, including 636 elderly participants. In this study, global cognitive function has been measured as a composite of several neuropsychological tests including memory, language, perception, and executive function domains. These scores have been standardized in order to compare data. Results based on the observed mean of global cognitive changes over 2 years for the Barcelona sample showed significant differences between those individuals supplemented with walnuts compared to the controls, indicating less impairment in global cognitive function for those supplemented with 30 to 60 g/day of walnuts compared to those in the control group. Nonetheless, in Loma Linda participants these effects have not been reported. In the case of the Spanish participants, it was in the perception performance cognitive domain that more benefits have been reported after nut consumption.

A total of 108 participants from the Barcelona WAHA study were included in a neuroimaging sub study using Magnetic Resonance Imaging (MRI) and functional MRI (fMRI) to analyze the effect of walnut consumption on brain structure and

“ In fact, emerging epidemiological and clinical trials suggest that long-term consumption of nuts, a characteristic compound in the Mediterranean diet, may improve cognitive function as well as reduce cognitive dysfunction. ”

function. Regarding the brain structure, the rates of brain atrophy, white matter hyperintensity and amount of blood taken to brain areas present similar rates for both groups. However, only for the control group, fMRI data indicates that those brain regions related to working memory function significantly increase the activity after the intervention. Then, it might be that people who do not consume walnuts have more risk of cognitive decline due to overstimulation of brain regions responsible for working memory performance⁷. In this sense, in another recent cohort Italian study, nuts implementation in dietary patterns during 3 years significantly reduced the risk of cognitive decline for both dietary and urinary markers compared to the control group⁸.

To conclude, research shows some evidence in the line of a beneficial effect of nut consumption and neuropsychological function, specifically for walnuts. However, as it is an emerging field of research interest it would be necessary to promote more studies to obtain enough data to sustain in the future that nut consumption may improve cognitive function and protect against cognitive impairment. ■

References

1. November 2, 2020. <https://www.who.int/news-room/fact-sheets/detail/dementia>
2. Bhatti GK, Reddy AP, Reddy PH, Bhatti JS. Lifestyle Modifications and Nutritional Interventions in Aging-Associated Cognitive Decline and Alzheimer's Disease. *Front Aging Neurosci.* 2020;11. doi:10.3389/fnagi.2019.00369
3. Petersson SD, Philippou E. Mediterranean Diet, Cognitive Function, and Dementia: A Systematic Review of the Evidence. *Adv Nutr.* 2016;7(5):889-904. doi:10.3945/an.116.012138
4. Alasalvar C, Salvadó J-S, Ros E. Bioactives and health benefits of nuts and dried fruits. *Food Chem.* 2020;314:126192. doi:10.1016/j.foodchem.2020.126192
5. Grosso G, Estruch R. Nut consumption and age-related disease. *Maturitas.* 2016;84:11-16. doi:10.1016/j.maturitas.2015.10.014
6. Chauhan A, Chauhan V. Beneficial Effects of Walnuts on Cognition and Brain Health. *Nutrients.* 2020;12(2):550. doi:10.3390/nu12020550
7. Sala-Vila A, Valls-Pedret C, Rajaram S, et al. Effect of a 2-year diet intervention with walnuts on cognitive decline. The Walnuts And Healthy Aging (WAHA) study: a randomized controlled trial. *Am J Clin Nutr.* 2020;111(3):590-600. doi:10.1093/ajcn/nqz328
8. Rabassa M, Zamora-Ros R, Palau-Rodriguez M, et al. Habitual Nut Exposure, Assessed by Dietary and Multiple Urinary Metabolomic Markers, and Cognitive Decline in Older Adults: The InCHIANTI Study. *Mol Nutr Food Res.* 2020;64(2):1900532. doi:10.1002/mnfr.201900532

New Scientific Studies



The Mediterranean Diet and Heart Health

Tsaban, G., Meir, A. Y., Rinott, E., Zelicha, H., Kaplan, A., Shalev, A., ... & Shai, I. (2020).

The effect of green Mediterranean diet on cardiometabolic risk; a randomised controlled trial.

Heart

A recent study published in the journal *Heart* examined how the Mediterranean diet can potentially reduce cardiometabolic risk. Moreover, this study aimed to look at the effect of a green Mediterranean diet further supplemented with plant-based foods and lower meat intake.

For the analysis, 294 participants were split into three different dietary groups, one consuming food based on a healthy dietary guidance, one utilizing the Mediterranean diet, and one group using the green Mediterranean diet. Both of the Mediterranean diets included walnuts and the green Mediterranean diet further emphasized plant-based foods and included green tea and a plant-based protein shake to lower the intake of animal protein. These groups were then tracked and analyzed over a six-month trial to estimate the effect on weight loss and the cardiometabolic state.

The results showed that both of the Mediterranean diets had similar weight loss while the green Mediterranean diet had a slightly greater reduction in waist circumference, albeit the waist circumference difference was only significant in men. Moreover, the green Mediterranean diet showed better results when it came to cardiometabolic factors like the LDL-C/HDL-C ratio ("bad"/"good" cholesterol ratio). This conclusion supports the notion that a green Mediterranean diet, complemented with walnuts, green tea, and lower animal protein intake may increase the beneficial cardiometabolic effects of the Mediterranean diet.



Consumption of Tree Nuts and Peanuts on the Risk of Cancer and Its Mortality

Naghshi, S., Sadeghian, M., Nasiri, M., Mobarak, S., Asadi, M., & Sadeghi, O. (2020).

Association of Total Nut, Tree Nut, Peanut, and Peanut Butter Consumption with Cancer Incidence and Mortality: A Comprehensive Systematic Review and Dose-Response Meta-Analysis of Observational Studies.

Advances in Nutrition

In the journal *Advances in Nutrition*, a recent study aimed to review and analyze current research on the association between consuming tree nuts and peanuts with the risk of cancer and its mortality.

The authors used a meta-analysis approach to gather and examine the current literature. Furthermore, they found that no previous meta-analyses used the dose-response association for risk of specific cancers as well as the associations between specific types of nuts and cancer mortality.

Using an online database, they found a total of 43 articles on cancer and 9 articles on cancer mortality. After examining the identified articles, they found that summary effect size (ES) for risk of cancer and the ES for the tree nut intake was significantly inverse. Moreover, looking closer at the dose-response analysis, they concluded that a 5 gram a day increase in consumption of total nut intake was associated with a 3%, 6%, and 25% lower risks of overall, pancreatic, and colon cancers. Concerning cancer mortality, they found 13%, 18%, and 8% risk reductions with higher levels of total nut, tree nut, and peanut consumption. In addition, increasing 5 grams a day of total nut consumption was also associated with a 4% decrease in risk of cancer mortality.



Plasma Metabolomics from Walnut Consumption and Cardiovascular Health

Guasch-Ferré, M., Hernández-Alonso, P., Drouin-Chartier, J. P., Ruiz-Canela, M., Razquin, C., Toledo, E., ... & Salas-Salvadó, J. (2020).

Walnut Consumption, Plasma Metabolomics, and Risk of Type 2 Diabetes and Cardiovascular Disease.

The Journal of Nutrition

A newly identified “metabolic signature” can evaluate the individual consumption and metabolic response to walnut consumption and was associated with a reduced risk of future type 2 diabetes and cardiovascular disease, according to new research in collaboration between Harvard T.H. Chan School of Public Health and two Spanish universities (University Rovira i Virgili and University of Navarra).

The analysis aimed to associate 385 known metabolites with walnut consumption. Once researchers found a metabolite profile (a new metabolic signature), they evaluated the relationship between the newly identified profile and incident type 2 diabetes and cardiovascular disease.

In conclusion, a total of 19 metabolites were significantly connected with walnut consumption. This metabolite profile, which was linked to walnut consumption, was also found to be associated with a decrease in the risk of incident type 2 diabetes and cardiovascular disease among participants with an existing high cardiovascular risk.



Consuming Nuts for Your Cognitive Health

Jiang, Y. W., Sheng, L. T., Feng, L., Pan, A., & Koh, W. P. (2020).

Consumption of dietary nuts in midlife and risk of cognitive impairment in late-life: the Singapore Chinese Health Study.
Age and Ageing

In the journal, *Age and Ageing*, a new study aimed to observe the association between consuming nuts midlife and the risk of cognitive impairment later in life. As previous literature on this subject is limited, this study provided a good starting point for analyzing this association.

In the study, 16,737 participants were assessed from a population-based cohort in the Singapore Chinese Health Study. To record the intake of nuts, researchers used a validated food-frequency questionnaire from 1993-1998 when the average age of the participants was 53.5 years old. Then the researchers examined the cognitive function through the Singapore modified Mini-Mental State Examination during a follow-up visit from 2014-2016. This meant the participants now had an average age of 73.2 years. Cognitive impairment was defined as using education-specific cut-off points.

At the conclusion of the study, 14.3% of the participants were identified to have a cognitive impairment. It was discovered that those who ate 1-3 servings of nuts per month, 1 serving of nuts a week, and more than 2 servings of nuts a week had a 12% lower risk of cognitive impairment. The authors also discovered that 50.8% of the association between nuts and risk of cognitive impairment was mediated by the consumption of total unsaturated fatty acids. Overall, increasing consumption of nuts in midlife may lead to a lower risk of cognitive impairment later on in life.



Almond-Based Low Carbohydrate Diet Improves Depression and Glycometabolism for Type 2 Diabetes Patients

Ren, M., Zhang, H., Qi, J., Hu, A., Jiang, Q., Hou, Y., ... & Wang, X. (2020).

An almond-based low carbohydrate diet improves depression and glycometabolism in patients with Type 2 Diabetes through modulating gut microbiota and GLP-1: A randomized controlled trial.

Nutrients, 12(10), 3036

This study explored how an almond-based low carbohydrate diet (a-LCD) may affect depression and glycometabolism in type 2 diabetic patients.

The randomized controlled trial compared a-LCD with a low-fat diet (LFD). A total of 45 participants were involved in the study with 22 people in the a-LCD group and 23 in the LFD group. The indicators for depression and glycosylated hemoglobin (HbA1c) were significantly improved for those participants in the a-LCD group. Moreover, a-LCD increased the short chain fatty acid-producing bacteria *Roseburia*, *Ruminococcus* and *Eubacterium*.

In conclusion, an almond-based low carbohydrate diet may provide a beneficial effect on depression and glycometabolism in patients with type 2 diabetes. The researchers suggest that more research should focus on the short chain fatty acid-producing bacteria.

Why does the world come to California for prunes?

REASON NO. 1

Leadership

Creating worldwide opportunities for growing your business takes hard work. And that's work California Prune growers and handlers have been doing for nearly 100 years. That's because only California Prunes invests in the nutrition and crop research, responsible agriculture practices, and premium growing practices that build the category for all of us.

But that's just one reason. Choose California Prunes for yours.





Pandemic-driven demand has led consumers to eat more prunes. Esther Ritson-Elliott, Director of International Marketing & Communications for the California Prune Board shares why the trade should keep California top of mind.

What is the California Prune supply outlook?

While pandemic-related challenges have affected the supply chain, California Prunes remains focused on opportunities. Consistent deliveries continue as consumers seek healthy, convenient snacks and delicious ingredients to integrate into their home cooking routines. An increase in demand combined with a shorter 2020 crop, has created a more balanced supply and a healthier outlook heading into the 2021 bloom.

What makes California Prunes stand out?

California Prunes are synonymous with being consistently large, high quality and having a legendary sweetness. The California Prune industry takes the lead on food safety, farming practices, and building consumer awareness to support long-term growth and the trade knows they can rely on us for a premium product.

What are some of the recent initiatives from California Prunes?

California Prunes is teaming up with Canadian athletes to champion the role good nutrition and exercise play in bone health. We're working with a variety of sports figures, some of whom are training to compete on the world stage this summer. These athletes are sharing training, nutrition, and workout tips via californiaprunes.ca/team-up/. For decades, we've supported research into the health benefits of prunes, with studies showing the effects prunes may exert on bone mineral density (BMD)*. This campaign will further inspire consumers in this growing market to enjoy California Prunes no matter what their level of activity.



Source: *<https://www.californiaprunes.net/wp-content/uploads/2021/01/Nutrition-Handbook-updated-07Jan21.pdf>

EMMANUEL DELERM

Global Head of Blockchain,
Merchandising and B2B Supply Chain
platforms, Carrefour

Emmanuel Delerm is the director of the blockchain programme at Carrefour, one of the world's leading food retailers, with 12,000 shops in more than 30 countries. Emmanuel's mission was to launch the blockchain food traceability experiment in March 2017. At the beginning of 2018, the team put into production the first food blockchain in Europe, and Emmanuel is now coordinating the blockchain programme for the Carrefour group.

Emmanuel Delerm is a graduate of the IEP in Strasbourg. During his career, he has held several positions in different companies such as SAP, A.T Kearney, Headstrong and The Projecters.



Can you explain blockchain briefly for anyone who might be unsure what exactly we mean when we are discussing it?

Blockchain originally was designed for cryptocurrency and is very well known for the bitcoin system. Blockchain is in fact a representation of a ledger, which was used for accounting, civil services, and much more for many years. The ledger is a place to input data, but you cannot alter or modify the data once it has been entered. Because of this, what we call immutability of the blockchain, and the ability to distribute the ledger, you can share a unique ledger from one century ago and it will still be unique, which is quite incredible. We are using these blockchain properties, immutability and distribution to collect data on the traceability of the product we are selling, and sharing it with our customers. We aim to collect data on

the transformation of products we sell, for example, the transformation from harvest to when the final consumer purchases the product.

When and why did Carrefour choose to become involved in blockchain and what benefits can it provide?

Late 2016 and the beginning of 2017 is when we began to move with this idea. We had held talks with Walmart because at the time, Walmart was considering using blockchain to ensure the origin of their products that had experienced recalls, especially in the US. With these ideas, we exchanged possible applications of blockchain for the collective traceability of food products. By February 2017, we announced publicly that Carrefour would be the first retailer to apply blockchain for animal origin products.

One topic I have seen associated with blockchain is "traceability". Can you describe the importance of traceability in the food industry and how blockchain can be beneficial for this?

It is certainly two-fold. One part being the regulation perspective and the second part being the psychological perspective of the consumer. For the regulation perspective, I will discuss it in a European setting. In Europe, you have an incumbent and legal responsibility towards your customers when you are selling fresh foods and other types of foods for consumption. If there is any problem that occurs in relation to the food, you should be able to warn your customer of the potential issue, as retailers and producers have a relationship with their customers. Therefore, regulators have to ensure

“ I do not see any problem in using blockchain for this industry. ”

there is a certain level of traceability and transparency with the product that is being sold. And as there is more and more transformation in the foods we consume from harvest to table, you should be aware of the different steps of production and transformation to accurately handle any problems that might arise.

The other aspect is the psychology of the consumer. When you buy some products, it is possible to have some bias towards the origin, for example preferring products that are sourced locally from your region. This bias has been highlighted even more so during the COVID-19 pandemic, as we saw in France people having to buy unfamiliar foreign brands and there was certainly some level of discomfort in not finding the brand they were used to. We believe more and more that in coming years, consumers will value and care about the origin of their products. This bias can even be seen when quality is tied to origin in food products. All of this will lead to strong demand for traceability.

You wrote an article called “Gaining Customers’ Hearts with Blockchain”. Can you elaborate on that article and why you wrote it?

I must say that I am not specifically a blockchain fan, but rather I want to use the technology for what it may offer, which is immutability and collectiveness. I remember nearly four years ago, being with farmers in the central part of France to explain how blockchain worked, and I think that we have this vision of farmers that is not entirely correct. I saw that the vast majority of farmers were much more aware of technology than what we think. The starting point and an important point for them was the immutability, the guarantee that

once you enter data, by design of the blockchain, absolutely no one can change or modify it. It becomes the role of the farmer, or whoever is inputting the data, to enter the data correctly. The second aspect was the property of the data. It is still the farmer’s data and this feature of collectiveness means that everybody is making their best effort to enter the data correctly and provide the consumer with accurate information. This responsibility incentivizes the individuals to give their best effort. Each person along the entire supply chain is responsible for the data that falls under their umbrella. In this sense, it is not blockchain that will win the consumers’ hearts, it is not Carrefour that will win their hearts, it is the collectiveness, the team of stakeholders, that through the transparency will build trust in their relationship with the customers. When you trust a retailer, or trust a supplier, you are more inclined to make frequent purchases.

So, this is not just Carrefour, this is the farmers, everyone involved in the supply chain, correct?

Yes, in fact, everyone is important. To give you example, the first product we blockchained was a chicken from France. Many times, when you want to sell something under an “organic” label there has to be no or very little anti-biotics injected into the product and as we sat around a lunch table discussing this, it was the veterinarian who promised and took up the responsibility to certify that the product was organic. This did not come from Carrefour. It was the responsibility of the veterinarian. This example shows how it is most certainly a team playing or collective effort and because of this, it is sustainable. We are building a community around a product and the people are proud to be a part of this entire process.

Due to the immutability of the blockchain, what happens if someone incorrectly inputs data? What is the process for catching that and resolving it?

It is a good and valid point. Of course, it is normal to have a problem, or to enter data incorrectly on accident, but while you cannot modify the input, you can open a new data point acknowledging the mistake and rekey the data correctly. After one year of blockchaining the chicken, I asked the team to evaluate the number of corrections entered, and it turns out, there were very few errors to begin with. People were responsible and they knew the immutable system and they understood the importance of entering data correctly. Moreover, we are attempting to put some quality checks on the data. For example, each time you enter data, we could identify inconsistent data and raise a flag to go back to verify that it is correct.

Is Carrefour currently using blockchain processes for nuts and dried fruits? Are there any applications of blockchain specifically that can be helpful to the nut and dried fruit industry?

Not as we speak, and we have not been asked by food producers yet. I had some very preliminary talks with some importers of nuts and dried fruits in France, but from a consumer perspective it can be interesting and important to know where your edible nuts and dried fruits are coming from. I do not see any problem in using blockchain for this industry.

One interesting fact is that a lot of your products are harvested once a year and as they undergo transformation from the field to the consumer, it most certainly could be useful to track the transformation process. Any time you are getting a transformed product the preoccupation of the consumer is raising and it is certainly a way to reduce anxiety from a consumer’s perspective and value a certain region or process.

It is also important that you explain to the consumer in a relatable way and not too technical. As I have said frequently, we are shifting from a world of abundance to a world a quality. 🍎



INC XXXIX WORLD NUT
AND DRIED FRUIT CONGRESS

MAY 11-13, 2022



Dear INC friends,

As the global health crisis caused by COVID-19 continues to evolve, we extend our best wishes to everyone who has been affected. Despite vaccination programs around the world giving hope for bringing the pandemic under control, there still remains uncertainty for how soon international travel will be safe and unrestricted. Given this and the overall evolution of the situation, the INC has officially announced that INC Congress 2021 will shift to a virtual event for May 24-28, 2021. Moreover, the in-person Dubai Congress will move to May 11-13, 2022 and will remain in the same magnificent location at the Madinat Jumeirah resort.

The safety of our congress participants is of utmost importance to us and we are committed to providing an environment that is conducive for business and safety. With this in mind, we are excited to be able to provide services that meet this standard, through various online webinars, fruitful content, networking platforms, and much more. As information about the Virtual Congress on May 24-28, 2021 is confirmed, it will be made available. All the while, we will be diligently planning the in-person Dubai 2022 Congress, that is sure to be the event of the year.

Thank you for your continued support of our wonderful industry. We hope to see you at the virtual event in May 2021 and the Dubai Congress 2022. So please save the dates!

Wishing you all good health and see you soon.

Yours sincerely,

The Organizing Committee

Mr. Michael Waring, INC Chairman

Mr. Ashok Krishen, INC Congress Chairman

Mr. Gaurav Grover, INC Congress Vice Chairman

Mrs. Goretti Guasch, INC Executive Director

Sponsors

Strengthen your brand, expand your reputation and take advantage of an environment fully oriented to the nut and dried fruit business. Take a sponsorship opportunity and ensure your brand is seen by 1,000+ world-class industry leaders and professionals.



We thank our sponsors and exhibitors for their ongoing support.
www.nutfruitcongress.org



NUTS HAVE NEVER BEEN SEEN LIKE THIS BEFORE

The TOMRA 5C is a premium optical sorter in the next generation of best-in-class products from TOMRA Food. The TOMRA 5C's superior sensors seamlessly and immediately future-proof your operation's efficiency, safety, and yields through elevated sorting driven by data and more accurate removal of foreign material.



ANNOUNCING TOMRA 5C

A MORE SUCCESSFUL FUTURE AWAITS



Hi there,

As an innovative thought leader for nearly 50 years, TOMRA Food has brought many firsts to the industry, and now we bring you one more. We continue to raise the bar for food safety and product quality. We continue working closely with you, our processing partners, to break barriers as to what is possible with optical sorting and design equipment specifically to meet your wants and needs.

We are thrilled to announce the release of the all new TOMRA 5C, ushering in a new era of sorting for the nut and dried fruit industry!



Processing at 95% capacity or better, 100% of the time

This innovative sorter builds on the award-winning TOMRA technologies and utilizes one of the most influential forces in the universe, gravity.

Driven by data to continuously improve your sorting capabilities, this machine will usher in the future of nuts and dried fruit sorting.

Reduce downtime, improve yield, lower direct costs, improve operational efficiency and increase quality with vast amounts of data

Integrated with our powerful TOMRA Insight 4.0 data platform, the TOMRA 5C has been engineered with the processor and operator in mind. Combined with an easy-to-use and intuitive display, the TOMRA 5C adapts to your needs.

Making real-time decisions to increase profits with easy to read and actionable data has never been more straightforward

The future of the nut and dried fruit industry is automated. The TOMRA 5C brings a level of food safety and quality that minimizes or eliminates staff required for hand sorting. We have dramatically improved capacity, doubling the throughput for almonds.

You may have spent your entire career in the dried fruit and nut business, but we can assure you that your product has never been seen like this before.

Speak with one of our experts today to book your demo and take your business to the future!

NUTS HAVE NEVER BEEN SEEN LIKE THIS BEFORE



INC Online Events Program



Over a year has passed since the global health pandemic and yet it continues to impact our lives and change business as we knew it before. The INC has decided to organize an online conference and various webinars for members. These events continue to provide INC members with value and insight into the industry.

INC 3D Online Conference

From May 25-27, 2021, the nut and dried fruit industry will unite once again! The INC is organizing another online conference that will provide value, business opportunities, networking, and a new 3D virtual experience for members.

This event will feature many of the same sessions that congress and conference attendees are accustomed to like the Nut and Dried Fruit Working Groups and the Knowledge Sessions consisting of scientific and nutritional topics, along with industry marketing updates!

However, new to this online conference is a state-of-the-art 3D virtual interface. Unlike the online conference in November, this event will be based around an interactive 3D virtual experience where users can create their own avatar and explore the different virtual exhibition booths, attend live and recorded sessions, and even network with other attendees in various coffee corners.

Moreover, sponsoring this event is available and will give companies access to showcase their products and services to a niche but large group of businesses. It is the perfect way to enhance your brand's reach! Stay on the lookout for more information regarding this not-to-be-missed event. 🌱

1300+
Expected Attendees

85
Countries Represented

60+
Expert Speakers

20+
Virtual Exhibitors



INC WEBINARS



Mitigating Risks and Protecting Your Company’s Reputation in 2021

On February 16, the INC held the first of three webinars leading up to the INC 3D Online Conference. The event was organized in collaboration with the global insurance firm Aon. Over 100 attendees from 33 countries joined in to learn how they can best handle and mitigate the most common risks facing the food and beverage industry!

Joan Fortuny, member of the INC Board of Trustees led the webinar along with Aon Experts Ciara Jackson, José María Segón, Kary Yates, and Karl Curran. Discussions were centered on cyber risk, product contamination policy, and company governance and showed how your company can mitigate these risks to protect its reputation.

You can find the recorded version of the webinar on the INC TV Channel located in the Member’s Area of the INC website.



Shipping Challenges in a COVID-19 World, an Interview with MSC

In these uncertain times, there can be many questions regarding shipping and understanding these challenges is crucial for companies in the nut and dried fruit industry. The second webinar is Shipping Challenges in a COVID-19 World, an Interview with MSC, taking place on March 11, 2021.

MSC Mediterranean Shipping Company Trade Manager, Corrado Carosella, joins the INC to talk about the impact the pandemic is having on global container shipping. Topics include the current state of the shipping industry and the prospects for the future. How container shipping services have been impacted by COVID-19? What has triggered shipping costs to rise? How is MSC managing the crisis?

The INC would like to thank TOMRA Food for being the main sponsor of this webinar and Kreyenborg and MSC Shipping for being regular sponsors.



Retailers & Suppliers Analyze the State of the Industry: Present and Future

Taking place in April, the third and final webinar leading up to the INC 3D Online Conference is Retailers & Suppliers Analyze the State of the Industry: Present and Future. This webinar will conclude a series of three webinars and it promises to be an exciting one!

Top retailers and suppliers, representing different global regions, will join the INC to provide an outlook into the state of the nut and dried fruit sector. The webinar will feature a roundtable where industry leaders and experts will discuss consumers demand and trends. Moreover, speakers will provide an in-depth analysis of the current situation and how the pandemic is impacting and changing the market. All of these insights will offer a look into the future of our industry. As more details are confirmed, they will be shared, keep looking for further information!

The INC would like to thank TOMRA Food for being the main sponsor of this webinar and Kreyenborg and Olam for being regular sponsors.



Real Power for Real People: Boost your Attitudinal Immunity

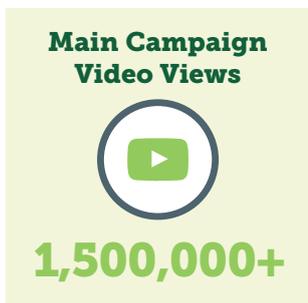


As the Real Power for Real People dissemination campaign nears its end, it has been undoubtedly a success. The message between nuts and dried fruits and attitudinal immunity has been shared with millions of people all over the world.

Back in October, the INC kickstarted the latest dissemination plan called Real Power for Real People. This campaign was created out of a market trend research commissioned by the INC in partnership with Ogilvy, a leading global advertising and marketing agency. Through the trend research, the INC identified that immune support was a potential area of growth for nuts and dried fruits, and due to the COVID-19 global pandemic, this area presented an even greater opportunity. A mix of nuts and dried fruits contain vitamin A, vitamin B6, selenium, zinc, iron, and copper that contribute to the normal function of the immune system. Moreover, consuming real food like nuts and dried fruits can also aid your “attitudinal immunity” which is known as an individual’s ability to resist the negativity that surrounds us.

Through the creation of a main promotional video, digital advertisement, social media and influencers, the message of Real Power for Real People has reached a global audience. The campaign is set to conclude at the end of March 2021, but it is without a doubt that the plan has been impactful with millions of views and interactions. Our social media community has come together using the hashtags #RealPowerforRealPeople, #ShareYourNutfruitPower, and #PlantBasedPower to share fantastic recipes, and ways that you can include nuts and dried fruits in your life.

Furthermore, the INC created a toolkit that included campaign materials and encouraged members to join the campaign and spread the message within their social media community. In total, so far, 20 members have participated and shared the campaign! 🍎



Real Power for Real People Influencers

The INC has partnered with 28 influencers from all over the world to help spread the message of #realpowerforrealpeople. These influencers have millions of followers and tremendously increase the campaign's reach! Check out below some of posts from our influencers!



healthyfitnessmeals



Name: Rena
Country: USA
@healthyfitnessmeals
Followers: 3.5M



carlosriosq



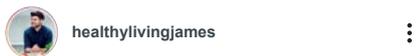
Name: Carlos Rios
Country: Spain
@carlosriosq
Followers: 1.4M



funfoodandfrolic



Name: Hina Bisht
Country: India
@funfoodandfrolic
Followers: 219K



healthylivingjames



Name: James Wythe
Country: UK
@healthylivingjames
Followers: 171K



omega.nutricion



Name: Omega Nutricion
Country: Argentina
@omega.nutricion
Followers: 169K



nourish_naturally



Name: Rebecca Gawthorne
Country: Australia
@nourish_naturally
Followers: 147K



nicoleosinga_rd



Name: Nicole Osinga
Country: Canada
@nicoleosinga_rd
Followers: 76K



thecanadianafrican



Name: Afia
Country: Ghana
@thecanadianafrican
Followers: 37.7K



giadahomemade



Name: Giada
Country: Italy
@giadahomemade
Followers: 3.5K

Qcify Opens a New Era in Data-Driven Decision Making

For many years food processors in California and all across the globe have relied on the technology from numerous vendors each selling a portion of the total processing lines. But we realize that in order to get the most out of processing lines those lines have to be configured as a total solution rather than a collage of individual machines.

It all starts with knowing how each piece of equipment is performing 24/7. Once that data is objectively gathered it can then be used to adjust the entire production line or to fine-tune individual machines along that line. "The days of manual data collection and adjustments of individual machines have to be over".

The Qcify technology creates and maintains a real time view of what is happening along the processing line and the quality of the stock, quickly, accurately, and with minimal human intervention. Food processors who leverage Qcify's technology can now expect the following benefits:

- **Less human labor, thanks to the automated processes and data collection across the processing line.**
- **An always-on data-driven operation, allowing for both strategic decisions and processing optimizations to be made easily.**

Early 2021 Qcify will showcase its latest technology during a California roadshow stopping by at food processors all across the state. With COVID-19 in mind the equipment showcase will happen by means of a mobile demo center avoiding the need to haul equipment into facilities and thus keeping processors' staff safe and well. Tree Nut processors can now already sign up for the roadshow via <https://www.qcify.com/#demo-section>.



Hello everyone, my name is Mark Sherrell and I am the Chief Operating Officer of Touchstone Pistachio Company. I wanted to thank everyone who took the time to attend INC's Online Forum in November and hopefully you were able to attend Touchstone's sponsorship presentation where my sales team provided a brief introduction to the company as well as a market update for the opening months of the 2020 US pistachio crop. To say the least, Crop Year 2020/2021 has not been without its challenges. From harvesting the largest crop in history,

universal shipping challenges, to global competition, Touchstone, along with our industry, has shown versatility and resiliency in meeting global demand in the backdrop of the current global pandemic.

It is within this context that I am excited for our organization's future. 2021 will see Touchstone processing out of three separate facilities, expanding our item portfolio, and cementing ourselves as the largest organic grower-processor in the world. Through innovation, technology, and marketing, I intend for Touchstone to bring a unique solution to our global buying community with our core values of Transparency, Performance, and Commitment to guide us along the way. We hope to see you at the INC Annual Conference in May 2021, and I wish all of you a healthy and prosperous 2021.

Respectfully,
Mark Sherrell



INC Academia: Where Industry Leaders Are Shaped



Join the Fourth Edition of the INC Academia and get a glimpse into the nut and dried fruit industry from leading experts.

The General Industry Track is the Executive Program that offers basic overview of the entire nut and dried fruit industry. The track covers many aspects of the industry providing the perfect introduction to getting started in the nut and dried fruit business. The program consists of 12 units, of which 10 are required, and the remaining two can be selected from the specialized elective track. The 10 required units cover topics like soil and climate, varieties, nutrition facts, processing, food safety, quality standards, industry statistics and essential strategies for successful negotiations, among other subjects.

The second option for students is the Specialized Industry Track. This track gives students a more specific and focused education. In this track, students have the option to freely select the courses they want to enroll in. There are four courses available covering arbitration rules, international market opportunities, cross-cultural negotiations, and risk and insurance. 🟩

Authors

	Ms. Ciara Jackson Aon Insurance Company Ireland		Dr. Cameon Ivarsson Napasol Switzerland
	Mr. Rudolf Ernst August Töpfer & Co. Germany		Ms. Myla Tadulan-Santos Nielsen Australia
	Mr. José Roig Borrell Borrell® Spain-USA		Mr. Stefano Massari Oltremare Italy
	Dr. Ing. Malte Ahrens Former Process Engineer at Bühler Aeroglide USA		Prof. Jordi Salas-Salvadó Rovira i Virgili University Spain
	Mr. Thomas Barber Bühler Aeroglide USA		Mr. Carlos de Pablos Silliker Ibérica SAU Spain
	Prof. Dr. Uygun Aksoy Consultant Turkey		Dr. Vicki McWilliam The Royal Children's Hospital Australia
	Mr. Klaus Ihrig Detia Degesch Germany		Mr. David Woollard TNA Solutions Pty Ltd Australia
	Prof. Dr. Kandarp Mehta IESE Business School Spain		Mr. Steven Hiel Former Sales Manager at TOMRA Sorting Solutions Belgium
	Mr. Marco Azzaretti Key Technology USA		Assoc. Prof. Cesarettin Alasalvar TÜBITAK Marmara Research Center Turkey
	Mr. Wilfried Thobe Mondi Consumer Goods Packaging Austria		Ms. Claudia Toussaint Waren-Verein der Hamburger Börse e.V. Germany

Online Program's Required Units

Unit 1. Origin and description:

Introduction to the long history of nuts and dried fruits, their description and physiology.

Unit 2. Soil and climate:

Which climates nuts and dried fruits are adapted to, soils, water demand and how climate conditions may affect the crops.

Unit 3. Varieties and uses:

An overview of the main varieties and geographical distribution of species, as well as traditional and recent products and uses.

Unit 4. Nutrition facts:

A review of the nutritional value and evidence-based health benefits of nut and dried fruit consumption.

Unit 5. Harvesting & processing:

Main processing operations that can take place during and after harvest, including shelling, drying, sorting,

pasteurization, frying, flavoring and storage.

- 5.1 Harvest
- 5.2. Shelling
- 5.3. Blanching
- 5.4. Drying
- 5.5. Sorting technologies
- 5.6. Pasteurization
- 5.7. Fumigation with phosphine
- 5.8. Storage
- 5.9. Frying and dry roasting
- 5.10. Flavoring

Unit 6. Retail packing and allergen management:

Essential knowledge of the packaging process and packaging materials, including contaminant detection and allergen management.

- 6.1. Multihead weighing and bag forming
- 6.2. Modified Atmosphere Packaging
- 6.3. Vacuum packing
- 6.4. Packaging
- 6.5. Contaminant detection and

removal

- 6.6. Allergen management
- 6.7. Nut allergies – an update on current evidence and practice

Unit 7. Food safety and quality standards:

Review of the essential aspects of food safety, quality standards and best practices.

Unit 8. Production, trade and consumption:

Global review of industry statistics, including production, trade and consumption volumes.

Unit 9. Consumption trends:

Understanding purchase behavior and capturing opportunities from emerging trends.

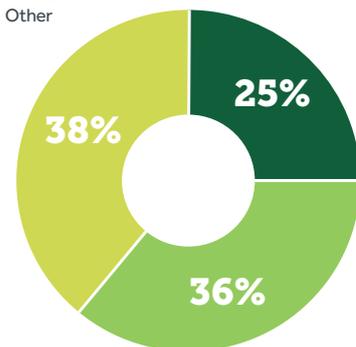
Unit 10. Negotiation:

Essential strategies and skills for successful negotiations.



INC Academia Student Position

- CEO/Director
- Managers
- Other



Specialized Elective Courses

Arbitration rules. Overview of arbitration rules, procedures and tribunals, as well as defaults and contract related issues. This course includes a review of the INC Short Form Contract.

International market opportunities. Communicating the health benefits of nuts and dried fruits to a contemporary consumer.

Cross-cultural negotiations. Understanding how to negotiate across cultural barriers.

Risk & insurance. Essential knowledge of the hot topics (such as property, public liability, product contamination, Directors and Officers insurance, and cyber risk) of most concern in the food and beverage industry.

Recap of the INC Online Conference 2020



November 17-19, 2020 saw the first INC Online Conference where thousands of attendees from around the world gathered to showcase what can be accomplished as a united industry. The conference featured leading industry experts, internationally respected keynote speakers, a 3D virtual exhibition hall, and more!

The global health crisis has drastically changed the way we go about business but despite the many challenges, the INC believed it was important to bring the sector together and create a place, albeit virtually, for INC members to network, learn, and do business.

With incredibly informative Nut & Dried Fruit Working Groups, knowledge sessions discussing the most pressing topics for the industry, and internationally renowned keynote speakers, the INC Online Conference did not let us down! Furthermore, sponsors of the conference had individual sessions to showcase their company, products, and services! You can view all of the sessions in the Members Area of the website under the INC TV Channel.

Nut & Dried Fruit Working Groups

The regional Working Groups for Americas; Europe, Middle East and Africa; Asia and Oceania discussed current nut and dried fruit supply and demand, as well as shifting consumption patterns within the context of COVID-19. We learned what new trends were affecting nuts and dried fruits and we heard from first-hand knowledge, what the crop estimates looked like.

Keynote Speakers

Javier Solana, Alan Oster, and Haim Israel were the events three keynote speakers. In Javier Solana's speech, "Geopolitics in the Post-COVID-19 World" we got a look into what the geopolitics of the US, China, and Europe might look like once the pandemic slows down and we return to a "new normal". Alan Oster discussed "Global Overview & Australia – Impact of COVID-19 in near and medium term" giving attendees an idea of how the global economy and specifically Australia's economy has reacted to the pandemic and what the coming years might look like. Haim Israel was the final keynote speaker and, in his speech, "Transforming World! The World After COVID", he emphasized the rapidly changing and transforming world we live in and gave insights into just how quickly everything is changing.



JAVIER SOLANA
Secretary General of
NATO (1995-1999)



HAIM ISRAEL
Global Strategist,
Managing Director of
Research, Bank of America



ALAN OSTER
Group Chief Economist,
National Australia Bank

INC Online Conference 2020 By the Numbers



Participants
1368



Countries
85



Working Groups
3



Keynote Speakers
3



Knowledge Sessions
3



Sponsor Sessions
8

Knowledge Sessions

In the Scientific & Regulatory Webinar, we learned about sustainability through the Farm to Fork Strategy of the European Commission, and how it aims to build a sustainable agricultural supply chain. Continuing with sustainability, we also heard about the most recent developments in agro-sustainability. Lastly, the session presented insightful looks into food quality and the role of technology.

The Nutrition & Research webinar first focused on the role of nuts and dried fruits on diabetes. Recent research was presented to analyze the positive health effects of consuming nuts and dried fruits. Next, we heard a presentation on plant-based diets and the importance of incorporating plant-based foods. Lastly, the webinar session discussed how aging can be positively affected by eating nuts and dried fruits.

The Industry Marketing Programs Update highlighted various marketing strategies that associations in the industry have implemented in efforts to increase consumption of nuts and dried fruits worldwide. We saw social media plans and strategic product and country efforts, and much more from the associations!

Sponsor Sessions

This online conference also saw the introduction of sponsor sessions. TOMRA Food, California Prune Board, Importaco, Key Technology, Laitram Machinery, MWT Foods and Laurel Foods, QCIFY, and Touchstone all hosted a session to share new products and give overviews of their business. These sessions allowed direct access to the event’s participants and provided the opportunity for these companies to showcase themselves. 🟩

Thank you to all of our sponsors who continuously support our wonderful industry!



INTERNATIONAL BROKERS & AGENTS

EUROBROKER

Spices
Edible Nuts
Dried & Dehydrated Fruits

Olives
Pulses
Capers, Gherkins & Pickles

82, Bd Haussmann - 75008 Paris - Tél.: +33 1 53 42 52 62 - Fax: +33 1 53 42 45 00
E-mail: info@eurobroker.fr www.eurobroker.fr

PRUNES & WALNUTS

from California

**Grower Owned
Companies**



Sacramento Packing, Inc.
833 Tudor Road, Yuba City, CA 95991, USA
P (530) 671-4488 | F (530) 671-7841
www.sacramentopacking.com



Valley View Foods, Inc.
7547 Sawtelle Ave, Yuba City, CA 95991, USA
P (530) 673-7356 | F (530) 673-9432
www.valleyviewfoods.com





AGRICULTURAL & INDUSTRIAL



Nuts

5  NUT FACILITIES
(USA & SPAIN)



EXPORTING NUTS TO

62 COUNTRIES

SOCIAL RESPONSIBILITY & SUSTAINABILITY PROGRAMS



125 YEARS IN THE NUT BUSSINESS



OWN ALMOND, WALNUT & PISTACHIO CROPS (USA/SPAIN)



OVER 58,5% EXPORT SALES ... & GROWING!

NUT MASTERS

SINCE

1896



BORGES AGRICULTURAL & INDUSTRIAL NUTS
C/ FLIX, 29 - 43205 REUS (TARRAGONA)
www.borges-bain.com



Global Statistical Review

Crop Progress Report

March 2021



Statistics are also available at our website www.nutfruit.org

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

Main Producing Countries

Almonds	Brazil Nuts	Cashews	Hazelnuts	Macadamias	Pecans	Pine Nuts	Pistachios			
USA Australia Spain Iran Turkey Tunisia Greece	Chile Morocco Italy Syria	Bolivia Peru Brazil	India Cote d'Ivoire Vietnam Guinea-Bissau Brazil Tanzania Benin	Nigeria Indonesia Cambodia Azerbaijan Spain France	Turkey China Iran Chile USA Georgia Azerbaijan Guatemala Malawi Brazil	South Africa China Colombia Kenya USA Vietnam	USA Mexico South Africa Australia Brazil China	China Turkey DPR Korea Portugal Italy Pakistan Afghanistan Mongolia Russia Spain	USA Iran Turkey Syria Afghanistan China Greece	
Walnuts	Peanuts	Dates	Dried Apricots	Dried Cranberries	Dried Figs	Prunes	Raisins Sultanas Currants			
China USA Iran Turkey Ukraine Chile France Moldava	India Romania Argentina Hungary Italy Georgia Australia	China India USA Nigeria Indonesia Argentina Senegal	Vietnam Ghana Brazil	Saudi Arabia Egypt Iran UAE Pakistan Algeria Iraq	Sudan Oman Tunisia Morocco Libya Israel USA	Turkey Iran China USA South Africa	USA Canada Chile	Turkey Egypt Iran USA Greece Spain Italy	USA Chile France Argentina Serbia Australia Italy	South Africa Turkey Iran China India Chile Uzbekistan

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

Almonds

杏仁 / Almendra / Amande / Mandorle / Mandel / Badem



USA. The December 2020 Almond Board of California Position Report was published on January 12, 2021 and shows receipts of 2.869 billion lbs. (approx. 1,301,000 metric tons) crop year-to-date. The FY 20/21 crop is now the largest crop on record with additional receipts expected to be reported in the coming months. USDA receipts show an average inedible reject percentage of 1.38% which continues the trend of progressively cleaner crops following the 2017/18 crop year.

Total shipments August through December are up a staggering 22% from 2019/20 at 1.284 billion pounds (around 582,400 MT) which is commensurate with a total supply that is up 23% over the same period. Domestic shipments August through December are up 11.5% from last crop year to 332 million pounds (150,600 MT). Exports are up 26% over the same time period. All regional exports are up year-over-year except for the Middle East. Shipments to key markets India and China/Hong Kong are up 79% and 54% respectively when compared to the first 5 months of last crop year. Given robust commitments and adequate supply, shipments are expected to continue to break records in 2021 as we await bloom and the development of the FY 21/22 crop.

Australia. The 2020 crop produced a record tonnage of 111,000 MT. The loss of bee hives in bush fires at the beginning of 2020, plus COVID-19 related travel restrictions within Australia, caused some concerns for the pollination season in August. Fortunately, beekeepers managed to replace hives and move enough to orchards in southern Australia for pollination to be completed successfully. As reported by the Almond

Board of Australia, the growing conditions for the 2021 crop have been favorable. The size of the 2021 crop, to be harvested commencing in February, is forecast at 123,000 MT. The kernel size appears to be very good and this may increase the crop size above the forecast figure should harvest proceed well.

After a slow start to the marketing year for the 2020 crop, shipments picked up with monthly records set for September, October and November. Grower returns are being impacted by lower global almond prices and the stronger Australian dollar exchange rate against the US dollar. The Export Position Report shows 2020/21 shipments from March through November amounted to 66,522 MT (kernel weight equivalent). Asia Pacific was the main destination with 44,681 MT. Vietnam and India had year to date increments of 157% and 38% compared to the same period in 2019/20. Exports to Europe were 14,603 MT. Germany, the Netherlands (with a strong increment from the previous season) and Spain being the major European importers.

Spain. As per AEOFRUSE, based on the Ministry of Industry, Trade and Tourism of Spain data overall shipments YTD –August through November, including re-exports from other origins, conventional and organic; natural and processed almonds– added up to 44,600 MT, similar to the same period in 2019/20. The European Union remains as the leading destination, accounting for 87% of the share. While Germany was the top importer within the EU, the highest increments compared to 2019/20 were presented by Portugal and the Netherlands (13% each), Italy (11%) and France (9%).

Estimated World Almond Production, Kernel Basis · Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
USA*^ (MM lbs)	318	2,504	2,823	450	450	2,940	3,390	525
USA* (MT)	144,387	1,135,893	1,280,280	204,172	204,172	1,333,562	1,537,734	238,136
SPAIN	1,800	90,000	91,800	6,000	6,000	115,633	121,633	n/a
AUSTRALIA	2,000	104,437	106,437	6,000	6,000	111,100	117,100	8,000
TURKEY	0	14,500	14,500	0	0	20,000	20,000	0
IRAN	0	15,000	15,000	0	0	16,600	16,600	0
TUNISIA	0	12,000	12,000	0	0	16,000	16,000	0
MOROCCO	0	13,000	13,000	0	0	14,000	14,000	0
CHILE	615	9,596	10,211	0	0	10,500	10,500	n/a
ITALY	0	18,000	18,000	0	0	10,000	10,000	0
GREECE	0	4,000	4,000	0	0	7,000	7,000	n/a
OTHERS	0	30,000	30,000	0	0	30,000	30,000	0
WORLD TOTAL	148,802	1,446,426	1,595,228	216,172	216,172	1,684,395	1,900,567	246,136
WORLD CONSUMPTION (T. Supply - End. Stock)				1,379,056				1,654,431

Sources: Almond Board of California, USDA NASS, Almond Board of Australia, AEOFRUSE and DESCALMENDRA, Greek Nuts & Fruits Trade Association and other INC sources.

*USA crop reflects the estimated 2% Loss and Exempt (L&E) for the crop year.

^USA 2020/21 ending stock estimated, 2020/2021 Crop-USDA Objective Measurement Published July 7, 2020.

Amazonia (Brazil) Nuts

巴西果 / Coquito de Brasil / Noix de Bresil / Noce de Brasile / Paranuss / Brezilya Fingigi



Over 2020, like the rest of the world, South America also faced the pandemic. For the Brazil Nuts industry this meant the starting and stopping of production, which affected yields. Falling prices through the year resulted in all factories ending up losing money as they were forced to cover raw material at the start of the crop when prices are higher. Port difficulties, with lack of containers and vessels missing port, were also worsen last year. And all of this amidst a political turmoil in Bolivia as the government changed twice from an interim government followed back to the original party after a second election.

While volumes exported started low and had months well below average, bumper months in September, October & November pushed exports level back to normal. Total exports from South America in 2020 added up to around 31,000 metric tons (Bolivia, 77%, Peru, 13% and Brazil, 10%); up by 10% from 2019. Total value though, was fairly below the last years' average.

By the beginning of 2021, carryover was short as yields were lower than what factories had anticipated. Raw material started to be negotiated at levels above the ending export price of 2020. Initially, exporters pushed back but intervention with the assistance of the government eventually set pricing at that higher level. Thus, exporters who had made a few speculative sales of 2021 withdrew from the market to cover that material as raw material no longer supported that price.

Going forward, shippers are likely to stay withdrawn until more raw material flows from the forest to the factories. Some markets for Brazil nuts are well covered already, but the smaller users, who buy every few months, are not. Smaller shippers, who buy material and then sell against the raw material replacement price, may start to push up the export prices with buyers who are in need of stock and, in turn, will start paying higher prices for raw material.

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

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
BOLIVIA	7,500	64,500	72,000	6,000	6,000	63,000	69,000	3,000
PERU	2,250	10,500	12,750	900	900	12,000	12,900	900
BRAZIL	750	3,300	4,050	1,350	1,350	7,200	8,550	600
WORLD TOTAL	10,500	78,300	88,800	8,250	8,250	82,200	90,450	4,500
WORLD CONSUMPTION (T. Supply - End. Stock)				80,550				85,950

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

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
BOLIVIA	2,500	21,500	24,000	2,000	2,000	21,000	23,000	1,000
PERU	750	3,500	4,250	300	300	4,000	4,300	300
BRAZIL	250	1,100	1,350	450	450	2,400	2,850	200
WORLD TOTAL	3,500	26,100	29,600	2,750	2,750	27,400	30,150	1,500
WORLD CONSUMPTION (T. Supply - End. Stock)				26,850				28,650

Source: INC.

Cashews

腰果 / Anacardo / Noix de caju / Anacardio / Cashwkerne / Cashew cevizi



The global cashew crop in 2020/2021, estimated at 3.8 million metric tons, was similar to the 2019/20 crop. The slightly lower West Africa crop was compensated by Vietnam and Cambodia's bumper crops. Due to pandemic-related restrictions during harvesting in West Africa, shipments took longer than usual impacting on kernel yields and quality, while processing and kernel exports were increased.

The fact the 2018 and 2019 Tanzania crops were shipped simultaneously led to an oversupply and this, coupled with COVID-19-related lockdowns affecting processing capacities in India, resulted in a 25-30% drop in the Raw Cashew Nut prices between February and April last year. By end of Q2, the kernel market also bottomed out and has since then gradually increased.

The 2020/21 latest Tanzania crop had almost completely been shipped by mid-January. Brazil harvesting was also completed in January and crop ended up 15% below 2019.

Due to weakness in the Brazilian currency, no RCN was imported this year.

The outlook for the 2021/22 Northern Hemisphere crop looks good. The crop in West Africa is expected to be slightly early this season, while the Vietnam and Cambodia crops are expected to be delayed by a couple of weeks.

While the supply side continues to remain healthy, there could be disruptions led by shipment delays, port congestions and higher freight rates, especially from Asia. Overall market is expected to be range bound in the near term.

On the demand side, imports into the USA and the EU saw significant increases, along with China, which demand revived during the last months of last year, after a strong decline in the first half of 2020. India's domestic consumption is expected to rebound following the HORECA segment demand plunge last year due to COVID-19.

Estimated World Cashew Production,

Raw Cashew Nut (RCN), Metric Tons

Country	2019/2020	2020/2021*
	Crop	Crop
INDIA	742,000	691,000
VIETNAM	375,000	450,000
CAMBODIA	210,000	190,000
COTE D'IVOIRE	805,000	900,000
NIGERIA	250,000	260,000
GUINEA-BISSAU	200,000	180,000
BENIN	135,500	173,000
GHANA	138,000	170,000
BURKINA FASO	120,000	100,000
GUINEA CONAKRY	50,000	60,000
SENEGAL	47,000	35,000
TOGO	20,000	20,000
GAMBIA	18,000	15,000
MALI	46,000	7,000
Sub Total Western Africa	1,829,500	1,920,000
Sub Total Northern Hemisphere	3,156,500	3,251,000
TANZANIA	245,000	220,000
MOZAMBIQUE	70,000	55,000
KENYA	6,000	6,000
Sub Total Eastern Africa	321,000	281,000
BRAZIL	150,000	135,000
INDONESIA	115,000	115,000
Sub Total Southern Hemisphere	586,000	531,000
OTHERS	54,000	54,000
WORLD TOTAL	3,796,500	3,836,000

Sources: Global Cashew Council and INC.

*Harvest from January'20 through June'20 (Northern hemisphere), from September'20 through February'21 (Southern hemisphere).

Hazelnuts

榛子 / Avellana / Noisette / Nocciola / Haselnuss / Findik



Turkey. Season has started with high expectations from majority of the farmers and trading community, where reluctance to sell and TL devaluation spree during September-November kept TL prices approximately 15% higher than the opening levels. However, higher than expected carry over in the industry, cautious procurement policies and slower demand due to pandemic-related household economic concerns, holiday season in lockdown and lower consumer confidence, TL prices lost the steam and returned almost at the beginning levels. Higher than usual crop levels in Italy, US and Caucasian countries also decreased the overall demand from Turkey. It is the common belief that the majority of the remaining crop is mostly under ownership of the farmers. As 2021 season indications, warm winter is closely watched for drought and early rejuvenation of the orchards. However, currently male blooming and farm maintenance performances are quite promising.

Italy. Crop ended up even higher than anticipated. The estimate for 2020/21 was consolidated at 160,000 MT in-shell, 19% up above the initial forecast, and presented excellent

quality. By the end of last year, 50% of the crop had already been processed and sold and the bumper crop compensated the lower prices.

USA. Crop 2020 was superb both in terms of quantity and quality; it was a very low defect-year with minimal disease, mold, or insect pressure.

The pandemic continues to present production challenges, although the crop was still all processed in time as to not interrupt production. On a positive note, the “channel-switching” that has occurred across many products may very well provide an opening for new uses for Oregon’s ever-increasing supply of kernel. Traditional in-shell markets, particularly into Asia, were reduced this year as compared to the historical average. The trade challenges between the US and China continue to hamper volumes headed into this channel. Meanwhile, stable kernel demand warranted much of the crop to be shelled. Overall volumes shipped have been typical with other crops, however, with kernel making up a larger percentage than normal.

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

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
TURKEY	45,000	820,000	865,000	90,000	90,000	640,000	730,000	95,000
ITALY	10,000	65,000	75,000	5,000	5,000	160,000	165,000	10,000
USA	3,000	39,500	42,500	3,800	3,800	56,600	60,400	2,000
AZERBAIJAN	5,000	42,000	47,000	2,000	2,000	50,000	52,000	3,000
CHILE	0	40,000	40,000	0	0	46,000	46,000	0
GEORGIA	3,000	38,000	41,000	1,000	1,000	50,000	51,000	1,000
IRAN	100	25,000	25,100	200	200	20,000	20,200	500
CHINA	100	12,000	12,100	300	300	25,000	25,300	0
FRANCE	0	10,500	10,500	500	500	7,500	8,000	0
SPAIN	600	12,400	13,000	600	600	4,500	5,100	0
OTHERS	0	27,000	27,000	0	0	30,000	30,000	0
WORLD TOTAL	66,800	1,131,400	1,198,200	103,400	103,400	1,089,600	1,193,000	111,500
WORLD CONSUMPTION (T. Supply - End. Stock)				1,094,800				1,081,500

Estimated World Hazelnut Production. Kernel Basis · Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
TURKEY	22,500	410,000	432,500	45,000	45,000	320,000	365,000	47,500
ITALY	4,900	30,600	35,500	2,350	2,350	75,200	77,550	4,700
USA	1,200	15,725	16,925	1,520	1,520	22,600	24,120	800
AZERBAIJAN	2,050	16,800	18,850	800	800	21,000	21,800	1,250
CHILE	0	17,600	17,600	0	0	20,200	20,200	0
GEORGIA	1,000	13,200	14,200	350	350	17,500	17,850	0
IRAN	46	11,500	11,546	92	92	9,000	9,092	225
CHINA	38	4,500	4,538	115	115	8,000	8,115	0
FRANCE	0	4,200	4,200	200	200	3,000	3,200	0
SPAIN	280	5,800	6,080	280	280	2,100	2,380	0
OTHERS	0	10,000	10,000	0	0	13,500	13,500	0
WORLD TOTAL	32,014	539,925	571,939	50,707	50,707	512,100	562,807	54,475
WORLD CONSUMPTION (T. Supply - End. Stock)				521,232				508,332

Sources: INC Industry sources, Oregon Hazelnut Industry Office, Hazelnut Processors and Exporters Association of Georgia.



Macadamias

夏威夷果 / Macadamia / Macadamianuss / Makedemia / Cevizi

Australia. As reported by the Australian Macadamia Society, weather conditions have been favorable with majority of regions receiving good rains over December and early January. While some varieties are performing better than others, overall early indications for the 2021 crop are positive. Given the favorable conditions combined with new plantings coming into bearing, the 2021 crop is predicted to reach 50,770 metric tons in-shell at 3.5% NIS moisture content, based on a model developed by the Queensland Department of Agriculture and Fisheries.

The final crop forecast for the 2020 season is 46,900 MT in-shell. Orchards weathered the drought conditions well in 2020, proving how naturally resilient these native trees are. Sustained investment by growers in orchard floor management continues, which is integral to managing soil moisture.

South Africa. According to Macadamias South Africa, the 2020 crop added up to 48,925 metric tons in-shell at 1.5% kernel moisture content, down 17% from 2019. As previously reported, adverse conditions during flowering and early nut

development, mature orchards, pruning (or the lack thereof) and insects and diseases played a role in the decline of the 2020 macadamia crop. Crop 2021 is anticipated to be similar to 2020. Tropical storm Eloise is not expected to have a major impact on yields and rainfall in the major producing areas might favor nut development and yields.

Kenya. As per the Nut Processors Association of Kenya, the 2020 crop is likely to close at 39,750 MT, at 10% NIS moisture content/37,000 MT NIS 3.5 m.c, 7% above 2019 closing of 37,200 MT/34,700 MT. The precipitation and sunshine were good and the quality of nuts is expected to be better than last year. Based on the recent years plantings and with new trees coming to fruition every year, crop 2021 is projected to reach 45,300 MT/42,250 MT.

Kernels sales have been slower than previous year owing to COVID-19 market disruptions. The closing inventories for 2019 have cleared and the industry is looking forward to a market resurgence early 2021 to take any carryover stocks.

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

Country	2020				2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
AUSTRALIA	n/r	46,900	46,900	n/r	n/r	50,770	50,770	n/r
SOUTH AFRICA	n/r	48,925	48,925	n/r	n/r	49,000	49,000	n/r
CHINA	n/r	30,400	30,400	n/r	n/r	32,000	32,000	n/r
KENYA	n/r	37,000	37,000	n/r	n/r	42,250	42,250	n/r
USA	n/r	15,300	15,300	n/r	n/r	15,000	15,000	n/r
GUATEMALA	n/r	14,200	14,200	n/r	n/r	16,000	16,000	n/r
MALAWI	n/r	6,000	6,000	n/r	n/r	6,900	6,900	n/r
VIETNAM	n/r	5,300	5,300	n/r	n/r	6,700	6,700	n/r
BRAZIL	n/r	5,500	5,500	n/r	n/r	5,500	5,500	n/r
COLOMBIA	n/r	1,300	1,300	n/r	n/r	1,300	1,300	n/r
OTHERS	n/r	16,000	16,000	n/r	n/r	16,000	16,000	n/r
WORLD TOTAL	n/r	226,825	226,825	n/r	n/r	241,420	241,420	n/r
WORLD CONSUMPTION (T, Supply - End, Stock)				226,825				241,420

Estimated World Macadamia Production, Kernel Basis · Metric Tons

Country	2020				2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
AUSTRALIA	n/r	15,840	15,840	n/r	n/r	17,150	17,150	n/r
SOUTH AFRICA	n/r	15,700	15,700	n/r	n/r	15,700	15,700	n/r
CHINA	n/r	8,800	8,800	n/r	n/r	9,600	9,600	n/r
KENYA	n/r	7,400	7,400	n/r	n/r	8,450	8,450	n/r
USA	n/r	3,400	3,400	n/r	n/r	3,300	3,300	n/r
GUATEMALA	n/r	2,850	2,850	n/r	n/r	3,500	3,500	n/r
MALAWI	n/r	1,500	1,500	n/r	n/r	1,700	1,700	n/r
VIETNAM	n/r	1,590	1,590	n/r	n/r	2,000	2,000	n/r
BRAZIL	n/r	1,375	1,375	n/r	n/r	1,375	1,375	n/r
COLOMBIA	n/r	260	260	n/r	n/r	260	260	n/r
OTHERS	n/r	4,160	4,160	n/r	n/r	4,160	4,160	n/r
WORLD TOTAL	n/r	62,875	62,875	n/r	n/r	67,195	67,195	n/r
WORLD CONSUMPTION (T, Supply - End, Stock)				62,875				67,195

Sources: Macadamia Council, Macadamias South Africa, Australian Macadamia Society, Nut Processors Association of Kenya, USDA, China Chamber of Commerce for Import and Export of Foodstuffs, Brazilian Macadamia Association, Vietnam Macadamia Association and other INC sources.

n/r: not reported or not relevant.

Pecans

碧根果 / Pacana / Noix de pécan / Noce pecan / Pecanuss / Pekan cevizi



North America. On January 21, 2021, the USDA released their 2020 preliminary crop production forecast projecting a final crop of 137,145 metric tons (302.4 million pounds) in-shell basis, slightly below their December estimate but 18% higher than 2019. Conversely, the Mexican Government final crop is estimated at 164,308 MT (362.2 million pounds), approximately 4% lower than 2019. North American total supply is up 5.7% over the same period a year ago. However, quality issues in Mexico have resulted in shortages in key supply segments, specifically Fancy Mammoth Halves, Fancy Jr. Mammoth Halves and Fancy Extra Large/Large Pieces.

Shipments continue to be robust, both domestically and internationally. With increased interest from China and the EU, overall US pecan exports are up 7.6%. In-shell shipments to China are up 72% over 2019 levels. Mexican exports, while holding relatively steady to China, are down approximately 24% to the US primarily due to quality issues. With the highest production levels in Georgia since 2012, even major Mexican shellers have turned to Georgia to procure good quality low count in-shell. As such, prices have started to firm for the first time in four years. Although there is still a considerable price gap between pieces and halves, piece prices have also started to climb. With most major buyers having already booked at lower levels, consumption is expected to continue to be good for the remainder of 2021.

South Africa. The high tariffs put on the USA pecans into China (47%) along with the overall drop in prices benefited the South African pecan industry, with many buyers shifting to South African product. Estimated sales to China were +-90% of the crop, leaving little for local market or other marketing options.

The 2021 harvest is expected to be between 22,000 and 24,000 MT, depending on the first semester climatic conditions.

Brazil. Season 2020/21 is expected to be an on year. In spite of below-average rainfall in some regions, spring and summer conditions are pointing to a good harvest: there were no rain disruptions during flowering, which was abundant, and fruits were developing well.

Australia. Consumption of the domestic crop is primarily within Australia and New Zealand, and as the crop volume contracted last season as a consequence of continued drought, this concentration was further extended. Exports of both pecan in-shell and kernels are down.

China. Due to new plantings coming into production, the 2020 production ended up much larger than anticipated. Expansion of the planted area is expected to continue in the coming years. Although in-shell market still prevails, kernel demand is growing in seasonal sales such as the Moon Festival and the Chinese New Year.

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

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
MEXICO	6,800	171,000	177,800	8,000	8,000	164,308	172,308	15,000
USA*	91,120	115,939	207,059	98,563	98,563	137,145	235,708	81,647
SOUTH AFRICA	100	17,270	17,370	50	50	21,500	21,550	0
BRAZIL	500	1,300	1,800	0	0	3,500	3,500	0
AUSTRALIA	200	2,000	2,200	200	200	2,086	2,286	0
CHINA	0	500	500	0	0	1,350	1,350	0
OTHERS	0	1,900	1,900	0	0	1,900	1,900	0
WORLD TOTAL	98,720	309,909	408,629	106,813	106,813	331,789	438,602	96,647
WORLD CONSUMPTION (T. Supply - End. Stock)				301,816				341,955

Estimated World Pecan Production. Kernel Basis · Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
MEXICO	3,400	85,500	88,900	4,000	4,000	82,200	86,200	7,500
USA	46,000	57,900	103,900	49,300	49,300	69,000	118,300	41,000
SOUTH AFRICA	55	9,600	9,655	28	28	10,750	10,778	0
BRAZIL	230	620	850	0	0	1,700	1,700	0
AUSTRALIA	104	1,140	1,244	114	114	1,085	1,199	0
CHINA	0	250	250	0	0	675	675	0
OTHERS	0	952	952	0	0	952	952	0
WORLD TOTAL	49,789	155,962	205,751	53,442	53,442	166,362	219,804	48,500
WORLD CONSUMPTION (T. Supply - End. Stock)				152,309				171,304

Sources: USDA, Brazilian Association of Nuts and Chestnuts (ABNC), Brazilian Agricultural Research Corporation (EMBRAPA) and other INC sources.

*USDA estimates, crop year from October 1 through September 30.

Pine Nuts

松子 / Piñón / Pignon / Pinoli / Pinienkerne / Çam fistigi



Far East. As reported by the China Chamber of Commerce for Import and Export of Foodstuffs, Native Produce and Animal By-products (CFNA), 2020 was a good year for Russian, Chinese and North Korean pine nut kernel production due to bumper crops. However, owing to the impact of the pandemic throughout 2020, the kernel sales dynamic has noticeably shifted. At the beginning of the year, it was not possible to acquire raw material from Russia, North Korea and Mongolia due to border closures. At the time of writing this report, the North Korea border with China was still closed

due to COVID-19 restrictions, but shipments coming in from this origin are expected before spring. On the other hand, shipments from Mongolia and Russia started entering during the New Year holiday, although at a slow pace.

Mediterranean. Although availability of raw material is very low and demand is weak, price remains stable at € 65. The sustained high prices have caused many companies to have canceled referrals for this product.

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

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
FAR EAST								
RUSSIA	500	17,000	17,500	500	500	40,000	40,500	n/a
CHINA	7,500	14,500	22,000	4,000	4,000	42,000	46,000	1,000
NORTH KOREA	0	12,000	12,000	700	700	35,000	35,700	1,000
AFGHANISTAN	1,000	5,000	6,000	0	0	9,700	9,700	0
PAKISTAN	1,000	5,000	6,000	0	0	9,300	9,300	0
SUBTOTAL	10,000	53,500	63,500	5,200	5,200	136,000	141,200	2,000
MEDITERRANEAN (Pinus pinea)								
TURKEY	0	3,000	3,000	0	0	1,400	1,400	0
ITALY	0	2,600	2,600	0	0	1,750	1,750	0
SPAIN	500	1,250	1,750	0	0	1,600	1,600	0
PORTUGAL	100	1,500	1,600	0	0	550	550	0
OTHERS	0	160	160	0	0	435	435	0
SUBTOTAL	600	8,510	9,110	0	0	5,735	5,735	0
WORLD TOTAL	10,600	62,010	72,610	5,200	5,200	141,735	146,935	2,000
WORLD CONSUMPTION (T. Supply - End. Stock)				67,410	144,935			

Estimated World Pine Nut Production. Kernel Basis · Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
FAR EAST								
CHINA	150	5,100	5,250	150	150	12,000	12,150	n/a
RUSSIA	1,900	3,600	5,500	1,000	1,000	10,500	11,500	250
NORTH KOREA	0	3,000	3,000	0	0	8,750	8,750	250
AFGHANISTAN	300	1,500	1,800	0	0	2,900	2,900	0
PAKISTAN	300	1,500	1,800	0	0	2,800	2,800	0
SUBTOTAL	2,650	14,700	17,350	1,150	1,150	36,950	38,100	500
MEDITERRANEAN (Pinus pinea)								
TURKEY	0	800	800	0	0	375	375	0
ITALY	0	650	650	0	0	350	350	0
PORTUGAL	100	250	350	0	0	300	300	0
SPAIN	15	300	315	0	0	100	100	0
OTHERS	0	40	40	0	0	100	100	0
SUBTOTAL	115	2,040	2,155	0	0	1,225	1,225	0
WORLD TOTAL	2,765	16,740	19,505	1,150	1,150	38,175	39,325	500
WORLD CONSUMPTION (T. Supply - End. Stock)				18,355	38,825			

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

Pistachios

开心果 / Pistacho / Pistache / Pistacchio / Pistazie / Antep fistigi



USA. Season 2020/2021 crop has been updated slightly up from the previous forecast of 469,000 metric tons (1.03 billion lbs., in-shell basis) and is now estimated at around 477,000 metric tons (1.05 billion lbs.).

US shipments last year added up to over 266,000 metric tons (588 million lbs.). This year's demand leading up to Chinese New Year and US sales during the holiday season remained consistent with the prior year and is anticipated to remain strong overall. Crop to date US shipments as of November amounted to 93,800 metric tons (207 MM lbs.), 3% up compared to last's year November crop to date of 91,100 metric tons (201 MM lbs.). Several factors affecting sales last year are continuing to be challenges this year: along with the increase in Iranian supply, additional tariffs between China and US, and the impact of COVID-19 in the export market, shipment issues are creating near-term shortages.

Iran. According to the Iran Pistachio Association, year to date (September 23, 2020-January 20, 2021) international shipments added up to around 106,000 tons of pistachios, only one third of 2007 and 2014 record crop years. About 60% of the starting inventory had already been shipped during the first four months of the current marketing year, which will limit the available inventory for the latter months of the current marketing year.

Exports to the Far East amounted to 57,000 MT; three times up from the same period the previous year. YTD shipments to India reached 14,000 MT, up 75% compared to 2019, followed by the EU with 7,000 MT.

Demand for larger pistachio nut varieties has been exceptional this year. Hence, it is assumed that the largest share of the remaining inventory consists of Fandoghi variety. Natural kernel demand has also been very strong in different markets due to its price attractiveness.

Turkey. This season, Turkish pistachio hit a record harvest of over 300,000 MT in-shell base. After 60-70% of the harvest was completed, prices softened in the market accordingly. However, due to the pandemic and related governmental rules, not all the raw materials were able to be delivered to the market, refraining prices to drop to the expected levels. Traditional domestic market has not reflected the "on year" crop in terms of pricing either. Season 2021/22 is expected to be an off year with a crop of around 160-180,000 MT.

Spain. Considering the accumulated reserves and the new orchards entering into production, season 2021/2022 is anticipated to be an on year. Although effective production will depend on the spring late frosts, rains and fruit setting conditions, a crop of around 3,000 MT is forecasted.

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

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
USA (MM lbs)	132	749	881	144	144	1,050	1,194	269
USA (MT)	60,000	340,000	400,000	65,000	65,000	477,000	542,000	122,000
TURKEY	100,000	75,000	175,000	75,000	75,000	302,000	377,000	160,000
IRAN	22,000	195,000	217,000	22,000	22,000	190,000	212,000	20,000
SYRIA	0	23,000	23,000	0	0	20,700	20,700	0
GREECE	0	5,000	5,000	0	0	8,000	8,000	0
AFGHANISTAN	0	5,000	5,000	0	0	4,500	4,500	0
AUSTRALIA	0	2,900	2,900	0	0	2,100	2,100	0
SPAIN	0	2,000	2,000	0	0	1,800	1,800	0
CHINA	0	3,200	3,200	0	0	1,500	1,500	0
ITALY	0	2,600	2,600	1,000	1,000	1,200	2,200	0
WORLD TOTAL	182,000	653,700	835,700	163,000	163,000	1,008,800	1,171,800	302,000
WORLD CONSUMPTION (T. Supply - End. Stock)				672,700				869,800

Sources: Iran Pistachio Association, Greek Nuts & Fruits Trade Association, Australia Pistachio Growers' Association and other INC sources.

Walnuts

核桃 / Nuez / Noix / Noce / Walnuss / Ceviz



China. Despite crop failure in the north, owing to the increased production in Xinjiang and Yunnan, final receipt is estimated at 1.1 million metric tons (in-shell basis). Quality is fair and good.

Overseas shipments are not as strong as last season due to lack of containers for both ocean and land transport. The high freight rate coupled with unfavorable currency exchange have refrained exports from increasing. While anticipating robust local consumption, led by roasted nuts retail and the Chinese New Year's demand, the industry will try to achieve stronger exports at lower pricing later on the season.

USA. The California Walnut Board reported handler receipts, as of December 31, 2020, of 783,754 short tons (711,099 MT). The final crop number will be reported later in the year.

Overall, market demand remains strong driven by increased use at home. Shipments through December 31, 2020, for both

in-shell and shelled, have been robust in the Middle East and Africa, showing combined gains of over 30%. With an April Ramadan, shipments are expected to remain strong. While Asian overall demand is increased, many European markets, due to the ongoing pandemic and varying restrictions, are slightly down as compared to the prior year.

In response to strong retail sales in the US and Canada, in-shell and shelled shipments have increased during the first four months of the crop season.

Chile. Rainfall during winter 2020 was higher than the previous year, still below the historical average, but with a good accumulation of snow, which has allowed normal water availability. However, as the stress caused by the long-standing drought from the previous season is still affecting tree productivity, Chilenuc has preliminary adjusted the initial forecast of 164,000 MT in-shell basis 8.5% down to 150,000 MT.

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

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
CHINA	30,000	1,000,000	1,030,000	60,000	60,000	1,100,000	1,160,000	60,000
USA	56,237	590,332	646,569	58,046	58,046	711,009	769,055	105,230
CHILE	2,000	135,000	137,000	1,800	1,800	150,000	151,800	n/a
UKRAINE	10,500	117,300	127,800	3,500	3,500	85,320	88,820	n/a
FRANCE	2,000	37,000	39,000	2,000	2,000	37,000	39,000	n/a
ROMANIA	0	34,600	34,600	0	0	36,300	36,300	n/a
TURKEY	0	35,000	35,000	0	0	31,000	31,000	0
INDIA	3,000	34,000	37,000	3,000	3,000	35,000	38,000	3,000
IRAN	0	25,000	25,000	0	0	30,000	30,000	0
ARGENTINA	0	20,000	20,000	0	0	22,500	22,500	n/a
ITALY	0	16,500	16,500	0	0	19,800	19,800	0
AUSTRALIA	200	12,000	12,200	0	0	13,000	13,000	200
MOLDOVA	700	23,300	24,000	640	640	13,750	14,390	n/a
HUNGARY	0	11,200	11,200	0	0	11,700	11,700	n/a
GEORGIA	0	7,100	7,100	0	0	7,000	7,000	n/a
OTHERS	0	12,000	12,000	0	0	15,000	15,000	n/a
WORLD TOTAL	104,637	2,110,332	2,214,969	128,986	128,986	2,318,379	2,447,365	168,430
WORLD CONSUMPTION (T. Supply - End. Stock)				2,085,983				2,278,935

Estimated World Walnut Production. Kernel Basis · Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
CHINA	13,200	440,000	453,200	26,400	26,400	484,000	510,400	26,400
USA*	25,000	260,000	285,000	25,600	25,600	313,000	338,600	47,000
CHILE	980	67,500	68,480	900	900	75,000	75,900	n/a
UKRAINE	4,200	46,930	51,130	1,400	1,400	36,000	37,400	n/a
FRANCE	880	16,280	17,160	880	880	16,280	17,160	n/a
ROMANIA	0	13,500	13,500	0	0	14,500	14,500	n/a
TURKEY	0	15,400	15,400	0	0	13,600	13,600	0
INDIA	1,110	12,629	13,739	1,114	1,114	13,000	14,114	0
IRAN	0	10,000	10,000	0	0	12,000	12,000	0
ARGENTINA	0	9,000	9,000	0	0	10,800	10,800	n/a
ITALY	0	7,260	7,260	0	0	8,700	8,700	0
AUSTRALIA	88	5,300	5,388	0	0	5,850	5,850	88
MOLDOVA	270	9,100	9,370	250	250	5,800	6,050	n/a
HUNGARY	0	4,800	4,800	0	0	4,700	4,700	n/a
GEORGIA	0	2,700	2,700	0	0	2,800	2,800	n/a
OTHERS	0	4,800	4,800	0	0	6,000	6,000	n/a
WORLD TOTAL	45,728	925,199	970,927	56,544	56,544	1,022,030	1,078,574	73,488
WORLD CONSUMPTION (T. Supply - End. Stock)				914,383				1,005,086

Sources: California Walnut Board and Commission, Chilenuc, Ukrainian Walnut Association and other INC sources.
*California Walnut Board and Commission does not measure in kernel basis, kernel equivalent is an INC estimation.

Peanuts

花生 / Cacahuete / Cacahuète / Arachide / Erdnuss / Yer fistigi



China. China's 2020 crop peanut production is estimated at 17.77 million metric tons as per China Peanuts industry. Although maturity was later and oil content is lower than usual, due to lack of sunshine and below-average temperatures during last summertime, overall quality is reported to be fairly good.

According to the China Chamber of Commerce for Import and Export of Foodstuffs, Native Produce and Animal By-products (CFNA), prices for Chinese peanuts were on the high side during the marketing period prior to Chinese New Year saw Chinese, mainly owing to the good performance of the crushing industry from 2019/20 into 2020/21.

COVID-19 has actually brought better sales for peanut oil with people staying more time at home cooking home-made meals. In contrast, the pandemic seems to have impacted negatively the edible consumption. Nonetheless, January 2021 saw edible market firming up with edible distributors preparing goods for the Spring festival demand. Meanwhile, the new clusters of virus cases have alarmed the manufacturing sector to build up a safe stock out of fear of supply chain disruptions due to lockdowns, which has helped pushing up market prices, in particular for edible grades.

India. As per the USDA FASS WAS report from January 2021, Indian peanut crop 2020/21 is estimated at 6.5 million MT, down by 3% compared to the December estimate of 6.7 million MT. Although average yield, estimated at 1.16 MT/hectare, is down by 9% compared to 2019/20, harvested area was up around 15% to 5.6 million ha.

USA. On January 12, 2021, the NASS USDA released the Crop Production Annual Report, where the full 2020/21 crop year is estimated at 2.78 million MT, 12% up from 2019/20, but 8% below last November estimate of 3 million MT. WASDE reduced ending stocks for US peanuts to 904,000 MT for the 2020/2021 marketing year.

National overall yield averaged 4.25 MT/ha, 7% down from the 4.59 MT/ha reached in 2019/20, while harvested area was increased by 16% to 653,900 ha, which, in turn, reflected in the higher crop reached this season.

Argentina. As per the Argentine Peanut Chamber (CAM) latest update, the sown area for the 2020/21 season is estimated at 385,592 hectares, up by 10% compared to the previous year, which presented a significant decrease with respect prior cycles.

The Chamber also indicated that, by the beginning of 2021, planting had just finished under good conditions, but advised to be cautious regarding yielding expectations due to the forecasted drought and delay in finishing the sowing that could affect the 2021 crop outcome.

As reported in the December 2020 USDA FAS GAIN Report, following two seasons of consecutive decrease in the planted areas, growers have returned to peanuts after rotating with other crops. As of March 2020, a Government Decree (230/2020) reduced export taxes for peanuts and peanut products, increasing their profitability relative to soybean (the major oil crop sown in Argentina) and grains. Exports are projected to amount to 950,000 MT.

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

Country	2019/2020				2020/2021			
	Beginning Stock	Crop	Total Supply	Ending Stock	Beginning Stock	Crop	Total Supply	Ending Stock
CHINA	88	15,700	15,788	50	50	17,770	17,820	70
INDIA	355	6,260	6,615	464	464	6,500	6,964	743
NIGERIA	773	3,500	4,273	400	400	3,900	4,300	395
USA	1,098	2,493	3,591	961	961	2,782	3,743	904
SENEGAL	500	1,420	1,920	33	33	1,400	1,433	250
ARGENTINA	480	1,395	1,875	525	525	1,350	1,875	410
INDONESIA	186	990	1,176	155	155	970	1,125	179
BRAZIL	1	550	551	1	1	540	541	10
GHANA	20	450	470	0	0	450	450	0
VIETNAM	25	434	459	22	22	447	469	22
COTE D'IVOIRE	10	210	220	10	10	210	220	9
NICARAGUA	4	157	161	2	2	180	182	4
MEXICO	53	82	135	33	33	102	135	37
SOUTH AFRICA	0	70	70	6	6	60	66	1
OTHERS	231	10,600	10,831	3,507	3,507	10,900	14,407	1,400
WORLD TOTAL	3,824	44,311	48,135	6,169	6,169	47,561	53,730	4,434
WORLD CONSUMPTION (T. Supply - End. Stock)				41,966				49,296

Sources: China Chamber of Commerce for Import and Export of Foodstuffs, USDA, Argentine Chamber of Peanuts (CAM) and other INC sources.

Dates

枣 / Dátil / Datte / Dattero / Dattel / Hurma

According to industry sources, overall production of dates has progressed in volume, as in previous years. The quality in some producing countries has decreased following certain climatic hazards but also a drop in orchard maintenance related to COVID-19.

Sales of table dates dropped down during Ramadhan 2020 and this decrease was accentuated during Christmas,

mainly due to the pandemic: lockdown, curfew and other restriction measurements slowed down the sales. Moreover, importers and local traders faced some difficulties to forecast consumption and were not able to sign long-term contracts. The purchasing was therefore done step by step and the market is bearish.



Estimated World Table Date Production. Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
SAUDI ARABIA	25,000	230,000	255,000	126,000	126,000	210,000	336,000	130,000
IRAN	11,000	175,000	186,000	36,000	36,000	160,000	196,000	100,000
UAE	12,000	135,000	147,000	45,000	45,000	130,000	175,000	40,000
TUNISIA	4,000	120,000	124,000	16,200	16,200	110,000	126,200	20,000
EGYPT	5,000	120,000	125,000	21,600	21,600	100,000	121,600	30,000
ALGERIA	6,000	100,000	106,000	18,000	18,000	90,000	108,000	25,000
IRAQ	4,000	60,000	64,000	14,400	14,400	50,000	64,400	2,000
ISRAEL	3,000	35,000	38,000	9,000	9,000	30,000	39,000	12,000
PAKISTAN	2,000	32,000	34,000	7,200	7,200	28,000	35,200	10,000
USA	5,000	30,000	35,000	12,600	12,600	28,000	40,600	9,000
MOROCCO	1,500	25,000	26,500	5,400	5,400	20,000	25,400	12,000
OMAN	2,000	25,000	27,000	7,200	7,200	20,000	27,200	7,500
SUDAN	500	9,000	9,500	2,700	2,700	7,000	9,700	4,500
LIBYA	100	1,000	1,100	360	360	800	1,160	500
OTHERS	5,000	35,000	40,000	21,600	21,600	30,000	51,600	28,500
WORLD TOTAL	86,100	1,132,000	1,218,100	343,260	343,260	1,013,800	1,357,060	431,000
WORLD CONSUMPTION (T. Supply - End. Stock)				874,840				926,060

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 / Orejón / Abricot Sec / Albicocca Secca / Getrocknete Aprikose / Kuru Kayisi

Turkey: As reported by the Aegean Exporters' Association, Turkish total exports from August 1, 2020 through January 30, 2021, amounted to 50,000 MT (US\$162.6 million). Wholes accounted for 88% of the share, followed by 6% diced and 5% industrial use dried apricots. The top exporting markets

for whole dried apricots continue to be the European Union (16,440 MT) and the Americas (11,125 MT), showing very similar volumes to the same period last year. In contrast, shipments to Middle East, Eastern Europe, Africa and Eurasia significantly dropped (46%, 38%, 31% and 17% respectively).



Estimated World Dried Apricot Production. Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
TURKEY	15,000	100,000	115,000	15,000	15,000	95,000	110,000	n/a
IRAN	3,300	26,300	29,600	3,000	3,000	25,000	28,000	n/a
UZBEKISTAN	1,100	10,300	11,400	1,000	1,000	12,500	13,500	1,200
AFGHANISTAN	0	4,500	4,500	0	0	6,000	6,000	0
CHINA	0	5,700	5,700	0	0	5,900	5,900	0
USA	0	1,400	1,400	0	0	900	900	0
SOUTH AFRICA	0	1,650	1,650	0	0	750	750	0
OTHERS	3,000	30,000	33,000	3,000	3,000	30,200	33,200	3,000
WORLD TOTAL	22,400	179,850	202,250	22,000	22,000	176,250	198,250	4,200
WORLD CONSUMPTION (T. Supply - End. Stock)				180,250				194,050

Sources: Aegean Exporters Association, Iran Dried Fruit Exporters Association and other INC sources.

Dried Cranberries

小红莓 / Arándano Rojo / Mirtillo Rosso / Keçiyemisi



The 2020 cranberry crop finished at 11.6 million barrels up 3% from last year. However, an average crop based on current acres would be close to 13 million barrels. For the second-year weather-related issues throughout the growing season have affected supply. Fruit for production of dried cranberries remains very tight against demand and, as a result, pricing should remain firm though to new crop 2021.

Estimated World Sweetened Dried Cranberry Production. Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
USA	5,740	161,745	167,485	5,267	5,267	150,975	156,242	5,772
CANADA	1,890	33,212	35,102	2,410	2,410	36,243	38,653	1,760
CHILE	450	10,030	10,480	310	310	10,645	10,955	246
WORLD TOTAL	8,080	204,987	213,067	7,987	7,987	197,863	205,850	7,778
WORLD CONSUMPTION (T. Supply - End. Stock)				205,080				198,072

Source: INC

The cranberry crop is harvested in the fall. End of year statistics are measured as of August, 31. 2020/2021 represents the estimate of production and supply through August 31, 2021.

Dried Figs

无花果 / Higo Seco / Figue Sec / Fico Secco / Getrocknete Feige / Kuru Incir



Turkey: As reported by the Aegean Exporters' Association, international shipments from August 1, 2020 through January 30, 2021, amounted to 36,630 metric tons (US\$137.7 million), from which 80% accounted for wholes and the remaining 20% included crushed, scrap and roasted dried figs. The European Union along with the Americas remain the main exporting markets. EU demand was slightly below 2019/20 marketing year, while exports to the Americas, led by USA, were increased by 9%.

Estimated World Dried Fig Production. Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
TURKEY	3,000	89,000	92,000	5,000	5,000	85,500	90,500	n/a
IRAN	9,000	30,000	39,000	1,000	1,000	25,000	26,000	n/a
SPAIN	0	7,000	7,000	0	0	10,000	10,000	n/a
USA	1,200	9,500	10,700	2,250	2,250	9,500	11,750	n/a
GREECE	0	5,200	5,200	0	0	6,500	6,500	n/a
AFGHANISTAN	0	4,000	4,000	0	0	4,000	4,000	n/a
ITALY	0	5,000	5,000	0	0	2,000	2,000	n/a
OTHERS	0	6,000	6,000	0	0	5,900	5,900	n/a
WORLD TOTAL	13,200	155,700	168,900	8,250	8,250	148,400	156,650	n/a
WORLD CONSUMPTION (T. Supply - End. Stock)				160,650				156,650

Sources: Aegean Exporters' Association, Iran Dried Fruits Exporters Association, California Fig Advisory Board, Greek Nuts & Fruits Trade Association and other INC sources.

Prunes

西梅 / Ciruela Seca / Pruneau / Prugna Secca / Backpflaume / Kuru Erik



USA: According to the California Prune Board, steady shipments continued in both domestic and key export markets as consumers looked for nutritious, shelf-stable snacks and delectable ingredients to integrate into their home meals and bakery items. Although COVID-19 has presented challenges in the supply chain, it has also led to opportunities in the marketplace.

The robust sales environment, in combination with a shorter 2020 crop of approximately 45,000 MT, has helped to balance inventory and strengthen the outlook heading into the upcoming bloom of the 2021 crop.

Estimated World Prune Production. Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
CHILE	9,538	63,300	72,838	8,000	8,000	55,194	63,194	n/a
USA	75,680	78,916	154,596	77,513	77,513	45,000	122,513	n/a
FRANCE	46,926	42,462	89,388	41,000	41,000	33,000	74,000	n/a
ARGENTINA	10,000	18,000	28,000	2,000	2,000	18,000	20,000	n/a
SERBIA	0	5,000	5,000	1,000	1,000	4,000	5,000	n/a
AUSTRALIA	826	3,028	3,854	2,200	2,200	2,000	4,200	n/a
ITALY	480	1,830	2,310	900	900	1,200	2,100	n/a
SOUTH AFRICA	0	800	800	280	280	600	880	n/a
WORLD TOTAL	143,450	213,336	356,786	132,893	132,893	158,994	291,887	n/a
WORLD CONSUMPTION (T. Supply - End. Stock)				223,893				291,887

Sources: California Prune Board, Chile Prunes Association and other INC sources.

Raisins, Sultanas & Currants

葡萄干 / Uva Pasa / Raisin Sec / Uvetta / Rosine / Kuru Üzüm



Turkey. According to the Aegean Exporters' Association, shipments year to date (September 1, 2020-January 30, 2021) added up to 105,936 metric tons (US\$203.8 million), down by 13% from the same period in 2019/20. With export volumes amounting to 55,279 MT and 30,966 MT, the EU and the UK remained as the major markets, although below by 15% and 9% from YTD 2019/20. Exports YTD to Eurasia accounted for 10,640 MT, up 3% from last season and led by Australia (58% of the share and up by 37% against 2019/20). The Americas ranked fourth with shipments of 3,351 MT and below 32% against 2019/20.

USA. The raisin growing region in California experienced good weather during the 2020 growing season. However, the 2020/21 crop is expected to be smaller compared to the 2019/20 crop due to reduction in producing acres and less crop made per acre. The fires that burned in the surrounding mountain areas in August and September last year created smoke that impacted the timing of drying and deliveries. Deliveries as of end of December 2020 were about 158,000 MT and are expected to continue through July 2021.

Shipments increased 6% between August through December 2020 posting strong pre-holiday volume compared to the same period last year. Shipments could have been higher if it were not for the recent disruptions caused by steamship lines. Vessel delays, rolled bookings and cancellations have negatively impacted export shipments.

Iran. Crop 2020/21 is estimated at 180,000 MT, 17% up from 2019/20. International shipments through January 10, 2021 added up to 85,000 MT and 40,000 MT are bounded to domestic consumption. The remaining stock of 55,000 MT is expected to be shipped through the end of the crop year.

China. Raisin crop 2020 is estimated at 100,000 metric tons, about 50% shorter than 2019 crop due to frost damages occurred during last winter. Although in some producing areas, such as XinJiang, the COVID-19-related lock down in August 2020 delayed the dry process, affecting the quality, overall quality is good.

South Africa. As reported by Raisins South Africa, just before the start of the harvesting and drying season, the Orange River Valley has been hampered by early heavy rains through December 2020 and January 2021, which are expected to result in some losses, especially for Sultana's –a third of South African raisins production. At the time of writing this report, Merbein's –close to half of South Africa's hectareage– were still holding up. Raisins South Africa, along with processors technical staff, have been in frequent communication with growers to ensure that the necessary practices at farm level were being executed to minimize crop and product damage as far as possible.

Crop forecast for Olifants River –12% of South Africa's raisin production– looked on target as it was not affected by the rain and it might surpass production volumes of 2020.

The 2020 marketing season (January-December) was very positive, with good demand, which is foreseen to keep increasing, partly due to a strong drive towards healthier consumption. COVID-19 has impacted on logistics in general, for various reasons; overall, there is a shortage of containers and delays.

Estimated World Raisin / Sultana / Currant Production. Metric Tons

Country	2019/2020				2020/2021			
	Beginning Stock	Production	Total Supply	Ending Stock	Beginning Stock	Production	Total Supply	Ending Stock
TURKEY	10,000	305,000	315,000	35,000	35,000	271,000	306,000	15,000
USA	127,000	232,000	359,000	120,000	120,000	196,000	316,000	n/a
IRAN	0	150,000	150,000	0	0	180,000	180,000	0
INDIA	0	145,000	145,000	0	0	145,000	145,000	2,000
CHINA	10,000	150,000	160,000	20,000	20,000	100,000	120,000	15,000
UZBEKISTAN	0	85,000	85,000	0	0	85,000	85,000	0
CHILE	3,000	65,000	68,000	7,800	7,800	70,700	78,500	5,000
SOUTH AFRICA	12,500	78,200	90,700	10,000	10,000	63,360	73,360	1,000
ARGENTINA	0	42,000	42,000	1,800	1,800	43,000	44,800	n/a
AFGHANISTAN	0	15,000	15,000	0	0	28,000	28,000	0
GREECE	0	25,000	25,000	3,000	3,000	22,000	25,000	0
AUSTRALIA	5,700	15,250	20,950	1,600	1,600	13,100	14,700	0
OTHERS	0	20,000	20,000	0	0	20,000	20,000	0
WORLD TOTAL	168,200	1,327,450	1,495,650	199,200	199,200	1,237,160	1,436,360	38,000
WORLD CONSUMPTION (T. Supply - End. Stock)				1,296,450				1,398,360

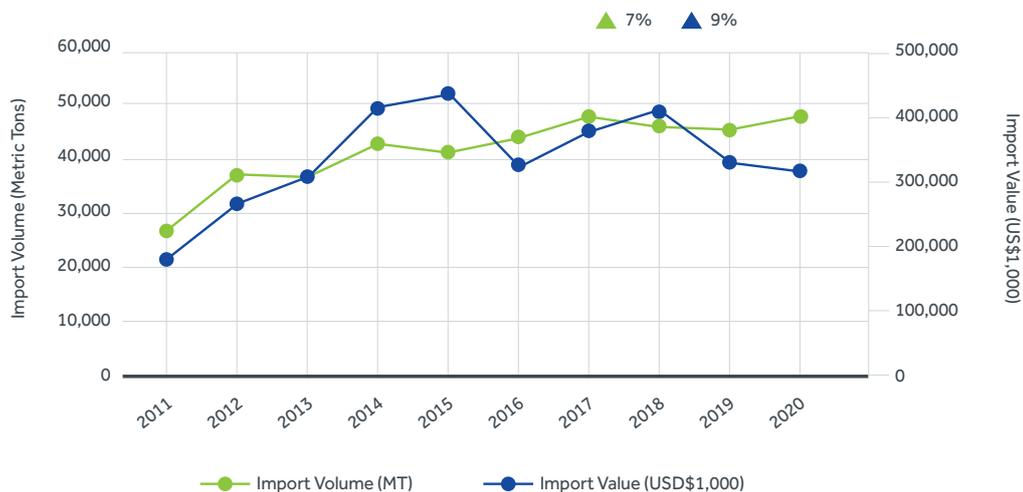
Sources: Aegean Exporters Association, Iran Dried Fruit Exporters Association, Raisins South Africa, Greek Nuts & Fruits Trade Association, USDA, Dried Fruits Australia, 2020 International Seedless Dried Grape Producing Countries Conference and other INC sources.

Special Report

Tree Nuts and Dried Fruits Imports to South Korea

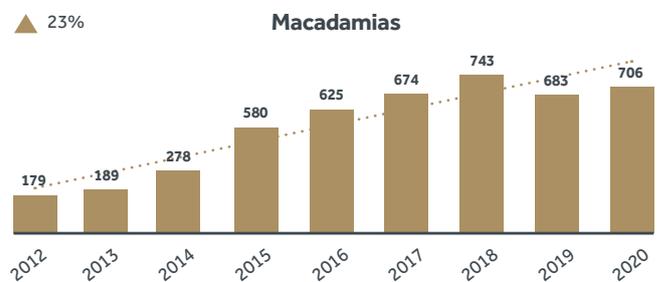
South Korea Tree Nut Imports

Almonds, Brazil nuts, Cashews, Hazelnuts, Macadamias, Pistachios, Walnuts.
In-shell + shelled. 10-year average annual growth



Most Significant Tree Nut Imports Increments over Last Decade

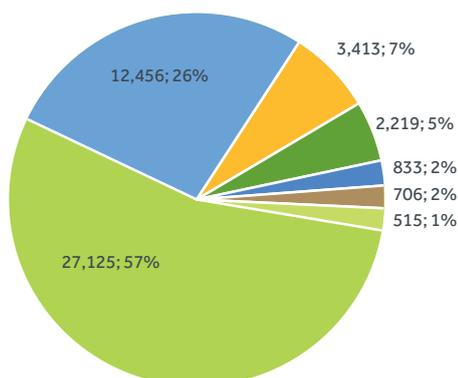
Metric tons, in-shell + shelled, 10-year average annual growth (%)



2020 Imports Market Share

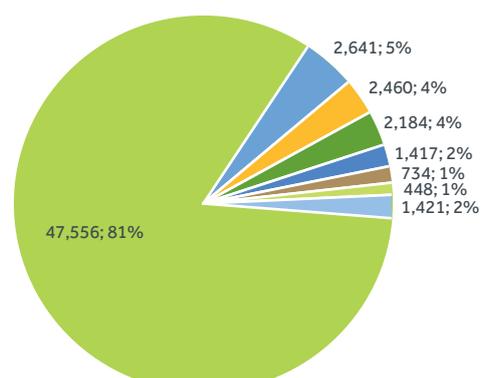
Metric tons, in-shell + shelled

- Almonds
- Walnuts
- Cashews
- Brazil nuts
- Pistachios
- Macadamias
- Hazelnuts



Origin Countries

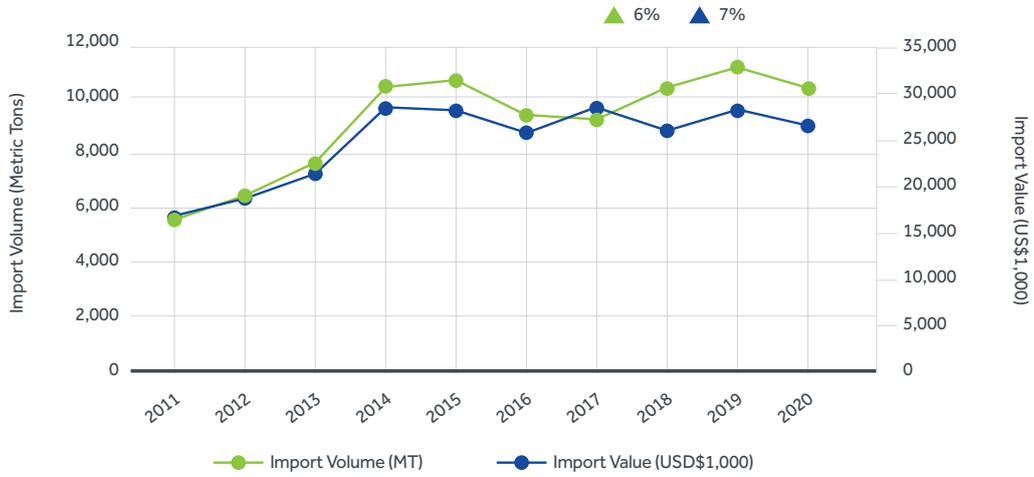
- USA
- Vietnam
- China
- Peru
- Turkey
- Australia
- Chile
- Others



Source: Korea Custom Service. HS codes: 080211;080212; 080121; 080122; 080131; 080132; 080221;080222; 080261; 080262; 080251; 080252; 080231; 080232.

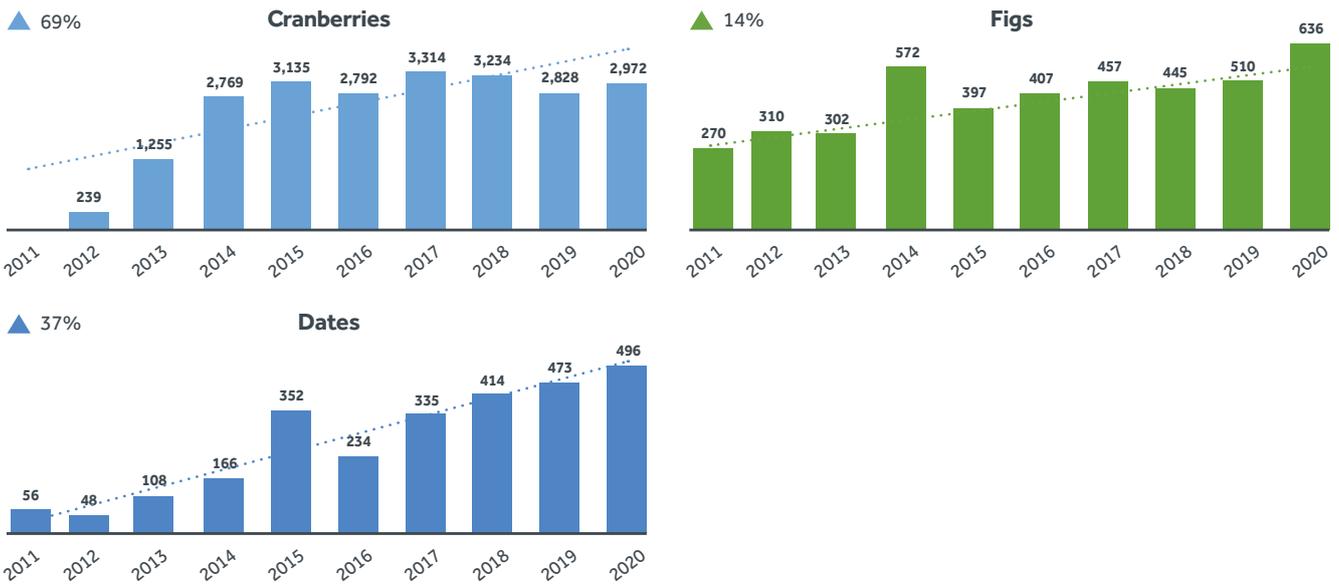
South Korea Dried Fruit Imports

Dates, Dried Apricots, Cranberries, Figs, Dried Grapes and Prunes. 10-year average annual growth



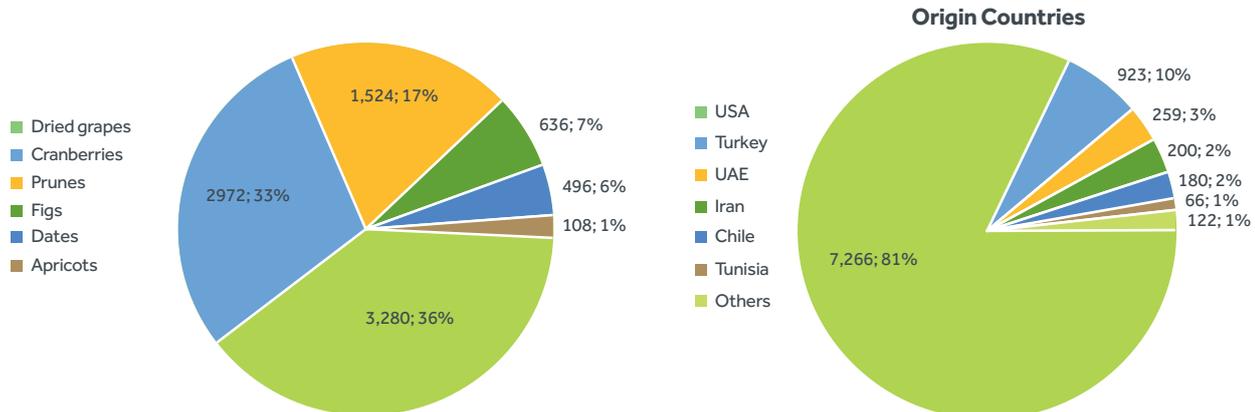
Most Significant Dried Fruit Imports Increments over Last Decade

Metric tons, 10-year average annual growth (%)



2020 Imports Market Share

Metric tons



Source: Korea Custom Service. HS codes:080410; 081310; 200893; 080420; 080620; 081320.

**INTERMODAL
SERVICES**



OUR DOOR-TO-DOOR SOLUTIONS BRING THE WORLD CLOSER.

Building on decades of experience, MSC aims to deliver a seamless journey for your cargo, serving all industries worldwide. We keep expanding our inland network and offer integrated truck, train and barge services to meet your supply chain requirements.

[msc.com/intermodal](https://www.msc.com/intermodal)

MOVING THE WORLD, TOGETHER.



The California Almond Industry Celebrates 25-Year Commitment to Nutrition Research (1995-2020)



Industry members had the foresight to establish a Nutrition Research Subcommittee in 1995. Twenty-five years later, with \$28 million investment and 185 scientific papers on heart health, weight management and gut health, diabetes, almond composition, skin health and now cognition; the sound science basis to communicate almonds health benefits is well established.

In the 1990's consumers believed eating high fat foods caused weight gain and that they were unhealthy. Researchers at Loma Linda University in California and University of Toronto conducted clinical trials on the effect of a handful of almonds daily on blood cholesterol. Their positive outcomes were a key component of the heart health claim petition that the California based Nutrition Research and Education Foundation filed with US FDA on behalf of the nut industry. In August 2003 FDA acknowledged the role that nuts can play in improving heart health and reducing the risk of heart disease. Three days after FDA approved this claim, ABC ran full page ads in The New York Times and USA Today and collaboration between ABC nutrition research and marketing programs began in earnest! Almond heart health research was then expanded to include other heart healthy foods to maximize the potential for lowering cholesterol, without the use of drugs.

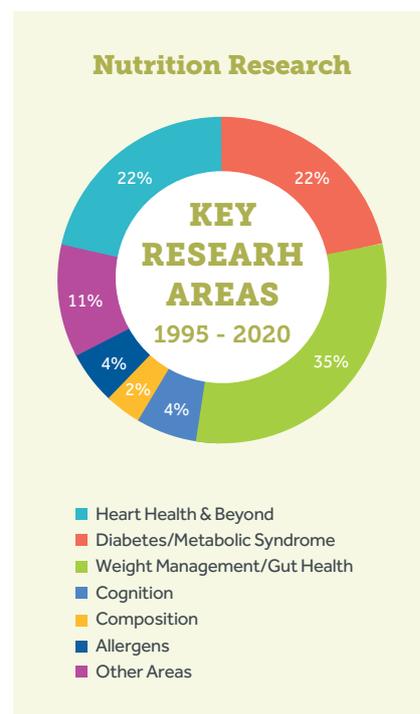
To overcome any lingering misconceptions around the fat content of almonds ABC began funding research in weight management, satiety and gut health by the early 2000's. Thanks to UK and US based research around satiety and fat absorption and numerous published papers, ABC was soon able to communicate that snacking on a handful of almonds that combine "good" unsaturated fats and robust cellular structure can help you feel full longer, curb cravings and can be used as a weight management tool. In 2006 ABC began to promote and giveaway 1 oz/30 g almond tins as a serving size tool and to encourage portion control.

In 2010 ABC began to focus on healthy lifestyle research to show how regular almond consumption could help maintain health amidst external challenges such as harmful air quality or during flu season. The role for almonds to slow down type two diabetes progression—especially for Asian populations was also substantiated, since almonds positively impact blood glucose levels. ABC became interested in almonds impact on skin health after studying Ayurveda, a 3000 year old recognized medicinal system that reported almond usage possibly due to almonds being one of the highest food sources of alpha-tocopherol vitamin E. Two California university studies recently studied the impact of daily almond snacking on facial wrinkle width and severity in postmenopausal women.

The California almond industry is committed to the search for innovative ideas and new areas of study in order to provide more data and health information to assist in the promotion of California almonds. 🌱



ACCORDING TO THE FDA, NOW
ALMONDS ARE HEALTHY!



How Prunes are Proactively Addressing Non-Tariff Barriers for Nuts & Dried Fruit



Exports of nuts and dried fruits require reliable measures that ensure consumers around the world are receiving a safe product. With decades of experience in shipping premium prunes internationally, the California Prune Board is preemptively acting on the issues that affect the trade with a new project underway that addresses regulatory concerns and preserves the use of sulfuryl fluoride.

With support from the Foreign Agriculture Services arm of USDA, Gary Obenauf, California Prune Board Production Research Coordinator, is leading the Technical Assistance for Specialty Crops (TASC) program titled "Preserving sulfuryl fluoride for dried fruit exports to the European Union." The three-year study is being conducted by top experts in their fields from Stanford, Yale, USDA's Agricultural Research Service (ARS), University of California, and DFA of California.

"This project hits on all the major non-tariff barriers," noted Gary Obenauf. "When we studied methyl bromide decades ago, we realized the use patterns didn't apply so we had to adapt for sulfuryl fluoride. This project allows us to update regulatory use patterns which have evolved since we started this work."

While the project specifically investigates the voids in residue data associated with the use of sulfuryl fluoride for treating U.S. dried fruit and tree nuts, the research ultimately addresses the stringent criteria to limit emissions for continued and optimal sulfuryl fluoride use in all export markets for a variety of commodities.

"Global trade interest in eliminating greenhouse gas emissions is growing, and we're getting asked about sulfuryl fluoride use in several markets. This project provides an opportunity to continue sulfuryl fluoride use globally and preserves the quality of products while maintaining food safety and security," stated Spencer Walse, a research chemist for ARS. "If we don't protect the use of sulfuryl fluoride, the ability to export to various countries, including the EU, diminishes."

With new use patterns that need to be reflected globally, efficacy data is generated for market access into new export opportunities. Many countries, including India and Australia, require residue data to accompany the efficacy data to ensure consumer safety. The leadership of the California Prune Board for this project is paramount in gathering the information needed, enabling prunes and other commodities to retain and expand export markets.

Phytosanitary techniques are vital to the export industry, and the benefits of updating regulatory information through this research and gaining data on sulfuryl fluoride scrubbing extends far past the dried fruit and nut industries and will allow continued use of the gas globally. ■



Your Distributor for Germany

— Import · Customs Clearance · VAT · Logistics · Storage · Sales · Retail · Distribution —



Walnuts · Almonds · Macadamias · Brazil Nuts · Prunes · Raisins · Apricots · Dates · Figs · Peaches · Mangoes · Pineapple · Tomatoes



www.palm-nutsandmore.de · mail@palm-nutsandmore.de

California Walnuts: A Healthy Addition to the Daily Diet



California Walnut Commission



California Walnuts Promotes Walnuts through Multi-Media Campaign in India

Consumers around the globe continue to be hyper-focused on learning more about healthy foods that they can easily add to their diet. In India, the California Walnut Commission (CWC) conducted a multi-media

campaign educating consumers on how walnuts add valuable plant-based Omega-3, protein and fiber.

This wide-reaching awareness campaign, seen by consumers from November 2020 through February 2021, was supported by print ads placed in leading consumer and trade publications, as well as digital ads. Top influencers, including celebrity chefs, nutritionists and fitness experts provided inspiration and recipe ideas through their social channels. To gain a wider reach, the CWC utilized advertising on broadcast television, from mid-December through mid-January reaching 1.2 billion consumers weekly.

The campaign incorporated point-of-sale displays in major retailers across India extending the messaging how incorporating walnuts as part of the daily diet, can also be a valuable addition that may benefit the heart, brain and gut.

California Walnuts Conducts Largest U.S. Retail Campaign Celebrating American Heart Month

California Walnuts conducted its fourth annual American Heart Month campaign in February, expanding its popular retail marketing program in an effort to bring more attention to Heart Month in 2021 and encourage consumers to make heart-smart food choices, including California walnuts.

This year's campaign incorporated walnut displays and promotions in more than 11,000 stores across the U.S.,



significant growth over the 2020 campaign that reached 7,300 stores. In light of the pandemic, supporting activities included more emphasis on digital than in prior years. Local advertising drove additional awareness for walnuts and participating retailers across the country. Public relations and social media tactics further augmented the retail effort.

American Heart Month is a perfect time to celebrate walnuts, as they carry both a qualified health claim¹ on cardiovascular health as well as the American Heart Association's Heart-Check mark². To date, over 50 papers have published on walnuts and cardiovascular health. Recent publications evaluated walnuts and cardiovascular biomarkers, inflammation, and heart attack outcomes.

Walnuts and Wellbeing

Food can be more than just fuel. Consumers are looking for food that has functional benefits for both the body and mind, and walnuts are one simple source for a range of these benefits.

When looking at Gut Health, a healthy gut microbiome has been linked to a variety of health benefits that can strengthen the immune system including reducing inflammation and supporting digestion and metabolism³. Research from *The Journal of Nutrition* suggests walnuts may be a good choice for gut health because of their prebiotic properties⁴.

For over 30 years, the California Walnut Commission (CWC) has supported health-related research on walnuts through research grants and the provision of walnuts. Since the inception of the health research program, more than 185 CWC-supported, peer-reviewed papers have been published. ■

¹ Supportive but not conclusive research shows that eating 1.5 ounces of walnuts per day, as part of a low saturated fat and low cholesterol diet, and not resulting in increased caloric intake may reduce the risk of coronary heart disease. One ounce of walnuts provides 18g of total fat, 2.5g of monounsaturated fat, 13g of polyunsaturated fat, including 2.5g of alpha-linolenic acid, the plant-based omega-3.

² Heart-Check Certification does not apply to scientific research by an organization other than the American Heart Association, unless expressly stated.

³ Bischoff, S.C. 'Gut health': a new objective in medicine?. *BMC Med* 9, 24 (2011). <https://doi.org/10.1186/1741-7015-9-24>

⁴ Holscher HD, Guetterman HM, Swanson KS, et al. Walnut Consumption Alters the Gastrointestinal Microbiota, Microbially Derived Secondary Bile Acids, and Health Markers in Healthy Adults: A Randomized Controlled Trial. *J Nutr*. 2018;148(6):861-867. doi:10.1093/jn/nxy004

Boost Immunity with Key Nutrients Found in Pistachios



Pistachios provide vitamins and minerals that may benefit the immune system.

Many people are looking to improve their overall health and immunity this year –with a focus on diet as one way to do so. According to the International Food Information Council's Year-End Survey¹, one in three people report their eating habits have become healthier over the past year. When looking to the year ahead, 22% of people report concern about how their food choices are affecting their physical or mental health. Adding nutritious foods –like pistachios– to the diet can help give your body more of the important vitamins and minerals needed to help your immune system function at its best.

The immune system is the first line of defense against infections. A healthy immune system aids in the healing process and shortens recovery time. Pistachios provide many nutrients, which may help the immune system function, including vitamin B6, zinc, copper, iron, selenium, folate, polyphenols, carotenoids, fiber and protein.

The functional properties of pistachios may contribute to overall immune function in many ways:

- **B-vitamins (B1, B6 and folate):**

Necessary to fight off infection.

- **Zinc, magnesium and selenium:**

May lower the risk and severity of viral infections.

- **Protein:** May strengthen the immune system by helping to maintain healthy immune cells, which are responsible for eliminating damaged cells, bacteria and viruses.

- **Gamma-Tocopherol (antioxidant):**

May help speed recovery time and lower airway inflammation.

- **Copper:** Helps produce antibodies to maintain the immune system.

- **Polyphenols and Carotenoids (lutein and zeaxanthin):** May increase the activity of some immune cells, lower inflammation and may boost the body's antioxidant defense mechanism.

- **Prebiotics (fiber and more!):** Act as food for beneficial probiotics in the GI tract which helps to protect the body from infection and regulates the mucosal immune system. Research shows pistachios possess prebiotic properties and may help increase beneficial probiotic bacteria.²



Nuts, including pistachios, are an integral part of a nutritious diet. Not only are they naturally low in sodium and sugar, but pistachios have been championed for their positive impact on heart health, weight and blood sugar management. It was also recently announced that pistachios are considered a complete protein, containing all 9 of the essential amino acids required to sustain health for those 5 years and older. In Europe, pistachios meet the threshold for a source of protein. So, go ahead, add pistachios to your diet for immunity boosting nutrients that come in a tasty package. 🍎

¹ IFIC's Year-End Survey: Consumer Insights from a Year Like No Other, and a Look to the Year Ahead. International Food Information Council. Food Insight. <https://foodinsight.org/wp-content/uploads/2020/12/IFIC-Year-in-Review-Survey.December-2020.pdf>. December 18, 2020.

² Ukhanova M, et al. Effects of almond and pistachio consumption on gut microbiota composition in a randomised cross-over human feeding study. *Br J Nutr.* 2014 Jun 28;111(12):2146-52. doi: 10.1017/S0007114514000385.

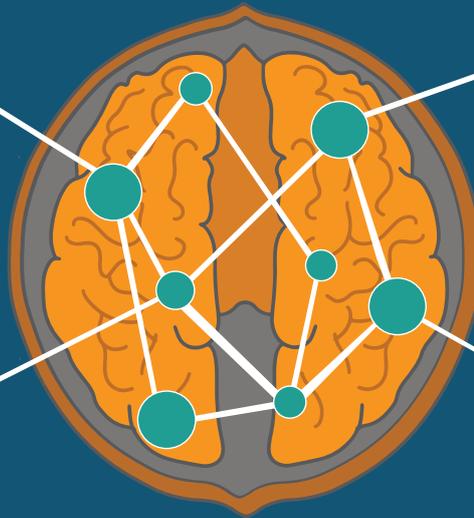
Bühler's advanced 4-in-1 detection system

Improves food safety by reducing foreign material in your product.

SORTEX F BioVision uses a 4-in-1 technology package to ensure the highest quality end product for you. Just as the brain and nervous system operate in tandem to control all the functions of the body, our four technologies work together to effectively target and remove any foreign material, shell, membranes and more from your commodity.



sortexenquiries@buhlergroup.com
www.buhlergroup.com/nut-sorting



Discover more at the
Bühler Virtual World

22-26 March 2021

www.virtualworld.buhlergroup.com

News from the INC Nutrition Research & Education Foundation (INC NREF)



**MAUREEN TERNUS,
M.S., R.D.N**

Executive Director

A new year brings new U.S. Dietary Guidelines and a revamped INC NREF website!

Dietary Guidelines

The 2020 U.S. Dietary Guidelines (DG), which were released at the end of last year, serve as the foundation for nutrition policy in the U.S. In this new edition, the key message is "Make Every Bite Count." In order to do this, the guidelines recommend the following:

- Customize and enjoy nutrient-dense food (nuts are included in this group) and beverage choices to reflect personal preferences, cultural traditions, and budgetary considerations.
- Focus on meeting food group needs with nutrient-dense foods and beverages and stay within calorie limits. Nutrient-dense foods provide vitamins, minerals, and other health-promoting components and have no or little added sugars, saturated fat and sodium. A healthy dietary pattern consists of nutrient-dense forms of foods and beverages across all food groups, in recommended amounts, and within calorie limits.

Dietary Patterns

There are three recommended dietary patterns in the DG: The Healthy U.S. Style, Healthy Mediterranean Style and Healthy Vegetarian Style dietary patterns. All recommend and include nuts. This is the first time, however, that tree nuts have been called out: "Nuts, Seeds, Soy Products: Nuts and seeds include all nuts (*tree nuts* and peanuts), nut butters, seeds (e.g., chia, flax, pumpkin, sesame, and sunflower), and seed butters (e.g., sesame or tahini and sunflower).



Figure 1: Nuthealth.org home page

Nuthealth.org

The newly designed INC NREF website has just been launched with a modern look and feel (see Figure 1). The new site contains over 700 research abstracts, recipes, usage tips for tree nuts, as well as nutritional information on all nine tree nuts.

The research abstracts are divided into 12 research areas (see Figure 2) including: allergy, cognitive health, cancer, cardiovascular disease, bone health, nut consumption, diabetes, gut health, metabolic syndrome, nutrient and bioactive composition, reproductive health and satiety. All of the research abstracts and recipes are searchable by nut. In addition, each tree nut has its own fact page (see Figure 3). Check out the new website and links to social media at www.nuthealth.org. 🟩



Figure 2:
Nuthealth.org Research Categories

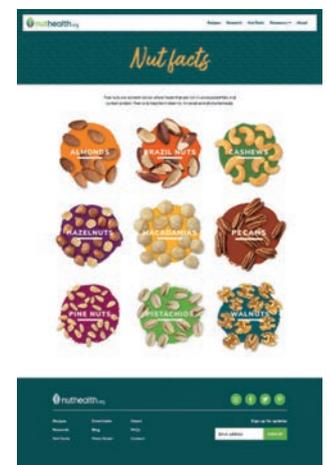


Figure 3:
Nuthealth.org Nut Facts

For more information on any project, please contact Maureen Ternus at maureen.ternus@nuthealth.org.

Vector Swabbing 101

JOSEPH NICHOLL

Technical Services Manager



You have just finished your swabbing, and now you wait with anticipation for the results to come back from the lab. You receive the results, and you've gotten mostly negative or acceptable counts, which is excellent. However, you also received an out of spec (OOS) count for an indicator organism and/or a presumptive positive notification for a pathogen. Now, what do I do?

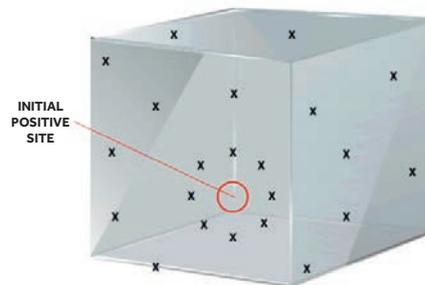
The answer: Best practices suggest vector swabbing. Vector swabbing is an additional investigative process in your Environmental Monitoring Program (EMP). It can be initiated once the presumptive positive notification is received, or after a confirmed positive result is received. It is best to immediately quarantine the area to prevent any spread of the contamination.

Think of it like this: you are a detective trying to solve the mystery of why you got a presumptive positive or OOS result and if the contamination has spread. With each new swab, it brings you another clue closer to your answer or root cause. Discovering the root cause empowers you to conduct aggressive corrective actions such as reinforcing GMPs, changing traffic patterns, repairing and modifying equipment, all of which could help prevent delays in the future.

Vector Swabbing

The key to vector swabbing is to take additional swabs around the initial positive site to see if the contamination has spread. Best practices suggest using at least five swabs in varying directions away from the initial positive site for 3 consecutive days.

When swabbing, select a representative area and sites around the initial positive site (see figure). Next, we take swabs of the initial positive site and around the positive site in a circular pattern. Once the initial positive site and surroundings have been sampled, the area should be appropriately cleaned and sanitized. After this is completed, additional swabs are then used to sample the initial positive site and surrounding areas again. The reasoning behind this is to show that the contamination, if spread, has been eliminated. This process is repeated, without cleaning and sanitizing for an additional 2 days. When 3 consecutive negative results are received, you are



free to release the area. The idea behind the 3 consecutive day swabbing is to allow the source of contamination to potentially grow again, or to confirm contamination elimination.

Keys to Vector Swabbing

To effectively conduct vector swabbing do the following: quarantine the area to prevent further contamination, write specific procedures with a minimum number of swabs for your swabbing, keep good records, and use a sound and effective swabbing sampling technique.

Although vector swabbing can take additional time, it is a powerful tool to determine the spread and elimination of a contaminated site. Vector swabbing enables us to have the power to find, remediate, and control microbes that can harm consumers.

If you need help developing your Environmental Monitoring Program or would like to learn more about vector swabbing give us a call at 916-206-7445. 🟩

PASTEURIZATION
ROASTING
COATING
STOCK PROTECTION

NUTS • SEEDS • DRIED FRUITS

- 5-log reduction
- Homogeneous treatment
- Process within minutes
- No gases or chemicals
- Continuous process
- Applicable for organic food



www.kreyenborg.com



Australian Macadamias Video Campaign Wins Cinematography Award



JACQUI PRICE

Australian Macadamias Market
Development Manager



The new 'Australian Macadamias: discover your best self' video campaign took out gold in the Corporate Branding and Advertising Category at the Australian Cinematography Society Awards recently.

The video campaign, which is being showcased across social media and digital channels, encourages the audience to see that life is an adventure, just waiting to be lived and focuses on the 'explorer' psychographic.

In the past, the story of Australian Macadamias has predominantly been told through social and other online media, however an opportunity was recently identified to establish a deeper emotional connection with macadamia fans and others through the use of high quality video content.

This led to the production of a suite of videos, covering topics such as the farmers behind the product, the origins of macadamias and the many health and lifestyle benefits they can offer. The award winning video was about celebrating the fact that macadamias are a relatively new, rare and largely unknown nut (outside of Australia). This also aligns with several of the values embraced by Australian Macadamias' target audience, including wellness, adventure and mindful consumption. The objective was to inspire more people to try macadamias and enjoy the adventure –and share their experience.

It's a moving, beautifully shot video that highlights all the best elements of macadamias and the country they originated in. It is also a video with longevity, and

one which can continue to tell the brand story for years to come.

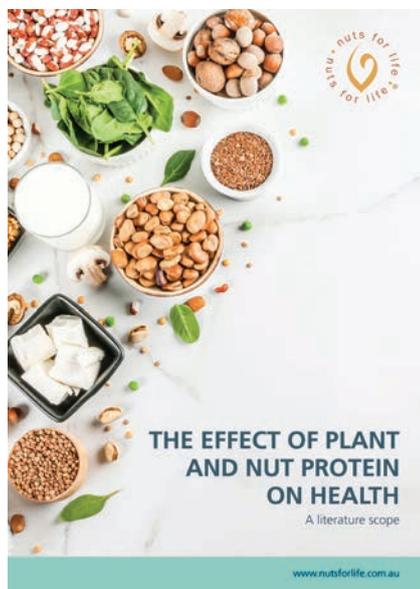
Depicting active young people surfing, ocean swimming, bushwalking and running, the campaign encourages viewers to 'discover, to grow and to create' and includes messaging around nutrition and wellness via the voiceover that says: "What you put into yourself reflects what you get back out. Trust in nature and the pure, simple pleasures that sometimes are the best medicine of all. Because life is what you make it."

To see the video, visit Australian Macadamias on YouTube or Facebook. 📺

Nuts for Life Update: New Plant Protein Report; The Healthy Handful Podcast; Join Us on LinkedIn



Happy New Year from the team at Nuts for Life. What a year 2020 turned out to be, in more ways than one! The new Nuts for Life Strategy (2020-2023), which kicked-off in mid-2020, is well underway. This will guide our work over the next three years.



We recently launched a new report for health professionals, 'The effect of plant and nut protein on health'. Nuts for Life commissioned Nutrition Research Australia (NRAUS) to scope the science on the fascinating area of plant-based protein. We produced a summary report and sharable graphics, summarising the outcomes of this review.

We're working to achieve our three key objectives:

1. Developing a high-level health claim for nuts.
2. Increasing the prominence of nuts in the next version of the Australian Dietary Guidelines.
3. Reducing the reported energy content of nuts on the nutrition information panel on pack.



Key findings include:

- Nut protein may be more effective at reducing cardiovascular disease mortality than other sources of plant protein.
- Nuts generally have the highest total protein content (per 100g) among common plant-protein sources, including grains, legumes and soy.
- The protein digestibility (or 'protein quality') of tree nuts is similar to many other plant protein sources.
- Nuts have higher levels of certain nutrients and bioactives (such as unsaturated fatty acids, phosphorous, copper, manganese and melatonin) than other common sources of plant protein.

Access the report: <https://www.nutsforlife.com.au/resource/plant-and-nut-protein-and-health/>

Supporting this was the launch of our new monthly podcast 'The Healthy Handful'. Our guest for Episode 1, which dropped in November, was NRAUS researcher Dr Flavia Fayet-Moore.

Listen to our monthly podcasts: <https://www.nutsforlife.com.au/the-healthy-handful-podcast/>

We've also recently launched a Nuts for Life LinkedIn page – a key channel to share information and connect with industry and health professionals.

Follow us on LinkedIn: <https://www.linkedin.com/company/nuts-for-life>. 🟩

For further information on these activities contact:
Belinda Neville, Program Manager,
belinda.neville@nutsforlife.com.au
Maree Hall, Digital and Communications Manager,
maree.hall@nutsforlife.com.au

Sports and Nuts, the Perfect Match of Nucis Italia's 2021 Campaign



Nucis Italia has launched a series of initiatives informing consumers about the benefits of nuts and dried fruits in sports nutrition.

Although the gyms remained closed in 2020, physical activity was still a priority for Italians, who continued (or started) to keep fit, using apps and following fitness influencers. During the first semester of 2021, Nucis Italia's communication campaign will reflect this growing interest in sports and fitness. The aim –highlighted by the new visuals– is to involve a younger audience, raising awareness of the benefits of nuts and dried fruits in sports nutrition.

This digital campaign follows the home workout trend and involves the Nucis Challenge, an online contest encouraging users to adopt a healthier lifestyle that includes physical exercise and conscious nutrition. The campaign can rely on the support of personal trainer and health and fitness expert Sara Compagni, who created two workouts –one for beginners and one for advanced fitness enthusiasts– and challenges her followers to post their workouts tagging @nucisitalia. The winner of the challenge will receive a whole year of Sara Compagni's at-home workouts and personalized advice.



The campaign will use different channels, i.e., a landing page, the Instagram, and Facebook profiles of Nucis Italia and Sara Compagni, which boast more than 130,000 followers between Instagram and Facebook.

In addition to embracing INC's "Real Power for Real People" campaign, Nucis Italia's editorial plan is increasingly focusing on sports nutrition content. Articles about nuts and dried fruits posted on the website will suggest the best options based on the physical effort required by different sport activities.

Moreover, during the spring, there will be a nutrition education campaign in 1,250 supermarkets across Italy, during which 50 health specialists will provide information and discuss customers' habits, stressing the importance of physical exercise in a healthy lifestyle. 🟩

Connect

International brokers and agents for
Dried Fruits - Treenuts - Groundnuts

Connect s.r.l. - Via Fonzaso, 6 - 20148 Milano - Italia
Tel. +39 0240090088 - Fax +39 0240091744

connectsrl@connectmilano.it

Your best connection in the Italian market



Left to Right: Banu Sinar- Export Sales Manager, Paul Ritsma- European Sales Manager, Lee Cohen- General Manager, Mia Cohen- COO, Joshua Setton- CEO/President

Setton Pistachio of Terra Bella, Inc

As America's premier pistachio grower and processor, Setton Pistachio of Terra Bella, Inc. prides itself on being a supplier that customers can count on. For more than 35 years, the Setton family has attended to every detail of growing and processing pistachios in the heart of California's Central Valley. Setton markets its pistachios to over 60 foreign markets and is widely regarded for having the industry's best

quality pistachios. We are pistachio advocates at our core, consistently innovating in each area of our business.

We offer a full range of pistachio products, from inshell to kernels, packaged and bulk, to branded and private label, as well as a host of innovative new products like dry roasted seasoned kernels, inshell seasoned pistachios, chocolate covered pistachios, pistachio chewy bites, and pistachio blend mixes, with even more on the horizon. As we continue to grow, our efforts are driven by our philosophy of expanding in a sustainable way. We reuse 100% of the water used during harvest as irrigation on our orchards; operate a 40-acre composting facility that recycles 100% of our biomass ag-waste; employ a 1.7-megawatt solar power system, allowing 100% of our post-harvest activities to be solar powered; and use 100% of the pistachio shells to create local road beds, minimizing dust and helping to clean the air. We will continue these efforts with pride and always being mindful of our environmental footprint.

We invite you to contact us to learn more. Joshua Setton 631-543-8090, Joshua.Setton@settonfarms.com.



1 The newest system release, CoolSteam® Black with Precision Roasting™

The Dawn of CoolSteam® Pasteurization by Laitram Machinery

From Shrimp to Tree Nuts, Providing Food Safety Solutions for Processors Around the Globe.

The unique emergence of Laitram Machinery into the nut industry began with applying knowledge and innovation to solve customer problems. With roots in southern Louisiana, USA, and humble beginnings,

Laitram Machinery spawned from an invention that revolutionized the global shrimp processing industry over 70 years ago.

Laitram's culture is rooted in applying core capabilities to solve customer problems and create value. This culture of innovation is best exemplified by our CoolSteam® cooking technologies. Our low-temperature, forced-convection steam technology was launched in the seafood industry, and quickly set a global standard for shrimp cooking, creating millions of dollars in yield savings for each customer.

With a trusted method in the shrimp industry and identifying a class problem in the nut industry, we set out to leverage our work in forced convection steam to deliver the CoolSteam® Nut Pasteurization system. Our system is a continuous flow, 4-step low-temperature steam process, that organically pasteurizes tree nuts for a 5log+ reduction of pathogens. The process virtually mitigates all moisture uptake and skin lift to eliminate disturbing each nut's raw form and quality. CoolSteam® produces exceptionally consistent product quality while operating at minimal cost with extraordinary flexibility.

Just as CoolSteam® is the global standard for shrimp cooking, through continuous innovation, the Laitram CoolSteam® pasteurization technology is growing to the global standard for steam nut pasteurization.

Introducing the South African Sultana



Grown and ripened under the South African sun for the most delicious tasting fruit, South African farmers are proud to introduce a newly rebranded raisin variety for 2021.

Naturally dried in the direct sunlight, these seedless dried grapes are light amber to dark brown in colour. Tender, soft skinned, and low in sugar, the SA Sultana is characterised by its sharp, caramelised flavour.

- The production of the SA Sultana adheres to strict food safety protocol and compliance criteria
- The new variety boasts a 12 month shelf life and excellent value for money
- No or minimum residues

The South African raisin industry has always been committed to quality, and the new standards of the SA Sultana reflect that. Over the past century, South Africa has grown to the 5th largest exporter of raisins in the world, and a key Southern-hemisphere region in the global context.



For more information about the South African raisin industry, please visit www.raisinsa.co.za



www.linkedin.com/company/raisins-south-africa

**BEAUTIFUL
COUNTRY
BEAUTIFUL
RAISINS**



Gentle Clean Reliable Conveying



Z-Conveyor

Decades of Global Experience
World-Wide Experts in Cable Conveying Solutions

45 Years in Business	65 Countries Served	900 Products Moved	30,000 Installations
--------------------------------	-------------------------------	------------------------------	--------------------------------

(641) 673-8451
www.cablevey.com

CABLEVEY
CONVEYORS
The Gentle Way to Convey

Cablevey is a registered trademark of Intertec, Inc. 04/2017

THE VOICE OF THE INC FOUNDATION 

NUTFRUIT

FOR THE NUT AND DRIED FRUIT WORLD

NUTFRUIT CONNECTS YOU WORLDWIDE



ADVERTISE NOW!

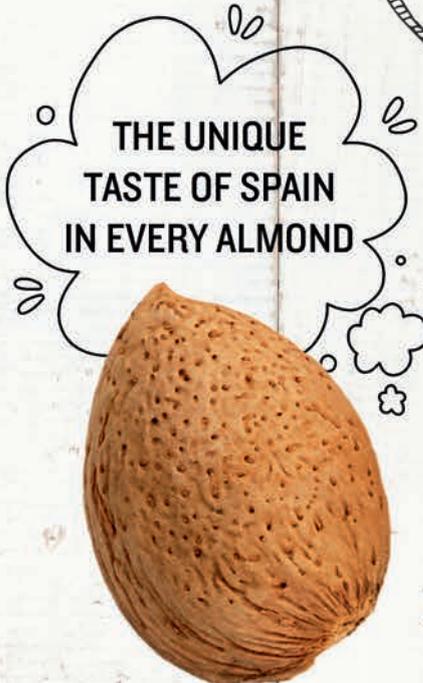
AUSTRALIA	ALMOND BOARD OF AUSTRALIA	6
	MWT FOODS PTY LTD	25
	MWT FOODS/LAUREL FOODS	26
BELGIUM	OPTIMUM SORTING	9
	TOMRA FOOD	56, 57
CHILE	BALLERINA FARMS	32
	EXPORTADORA ANAKENA LTDA	32
	INVERNADA	42
	VALBIFRUT	39
FRANCE	EUROBROKER S.A.	67
GERMANY	EUROFINS ANALYTIK GMBH	19
	KREYENBORG	92
	PALM NUTS & MORE KG	87
IRAN	MIDDLE EASTERN NUTS (IRNUTS)	4
ITALY	CONNECT S.R.L.	95
	V. BESANA S.P.A.	16
PERU	WHITE LION FOODS	20
SOUTH AFRICA	RAISINS SOUTH AFRICA	97
SPAIN	BORGES - BAIN	68
	CRISOLAR	Back Inside Cover
	IMPORTACO	26
	INCUS TECHNOLOGY S.L.	Front Inside Cover
	JOAN ESCODA S.A.	13
	MASETO, S.L.	3
	MEDITERRANEAN SHIPPING COMPANY	85
SECOEX	13	
U.K.	BUHLER GROUP LTD.	90
	KENKKO CORPORATION LIMITED	31
U.S.A.	CABLEVEY CONVEYORS	98
	CALIFORNIA PRUNE BOARD	50, 51
	CAMPOS BROTHERS FARMS	11
	FISHER NUT COMPANY	44
	KEY TECHNOLOGY	45
	LAITRAM MACHINERY LLC	96
	QCIFY INC.	62
	SACRAMENTO PACKING, INC.	67
	SETTON PISTACHIO OF TERRA BELLA, INC.	96, Back Outside Cover
	TOUCHSTONE PISTACHIO COMPANY	62
	WILBUR PACKAGING COMPANY	8

crisolar

- FROM SPAIN -



Growing almonds for you
CONVENTIONAL AND ORGANIC



THE UNIQUE
 TASTE OF SPAIN
 IN EVERY ALMOND

1 OF 5
 ALMONDS
 produced in
 » SPAIN «
 comes from
CRISOLAR

... With more than:
20.000 GROWER MEMBERS
 120,000 Has of almond orchards and
 30,000 Has of organic almond orchards

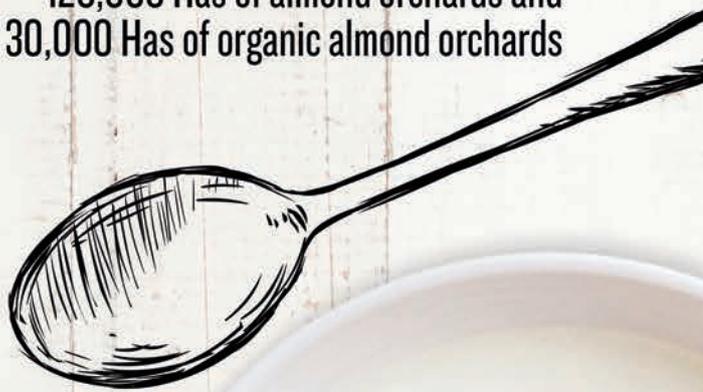
➔ FROM THE TREE TO YOU ◀

Food Safety & traceability is very important for all of us.
 Engaging growers and partners we get the best almond.



www.crisolar.es

info@crisolar.es / PHONE: (+34) 977 300 510





Family Values You Can Count On

With the support of our global customers, Setton Pistachio of Terra Bella has been producing “America’s Best Tasting Pistachios” for over 30 years. From our humble beginnings, to where we are today, our vision, continuous improvements, expansions, and investments have made our family business one you can count on.

Our focus on quality is not just a business decision for us, it’s a personal one, one that speaks to our family’s values. Superior quality pistachios build both short-term and long-term demand and it’s what sets us apart in the marketplace; don’t you deserve the very best too?

We invite you to join us and share in this growing global market for California pistachios!

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

ISO/FSSC 22000 Certified • SettonFarms.com