

# Australian Macadamias Yearbook 2024







Section 1:  
**Industry  
Overview**

# Australia's macadamia industry in numbers



## Current and forecast crop

---

**53,950t**

**2024 crop**  
(in-shell at 3.5% moisture)

**97,461t**

**2029 forecast crop<sup>1</sup>**  
(in-shell at 3.5% moisture)

## Area under production<sup>1</sup>

---

**44,129ha**

**Area planted**  
(as at Nov 2024)

**32,716ha**

**Area bearing**  
(for the 2024 crop)

## Industry footprint

---

**800**

**Number of growers**

**\$188m**

**Export value**  
(last financial year)

**575,806t**

**Carbon sequestered**  
(in the 2024 season)

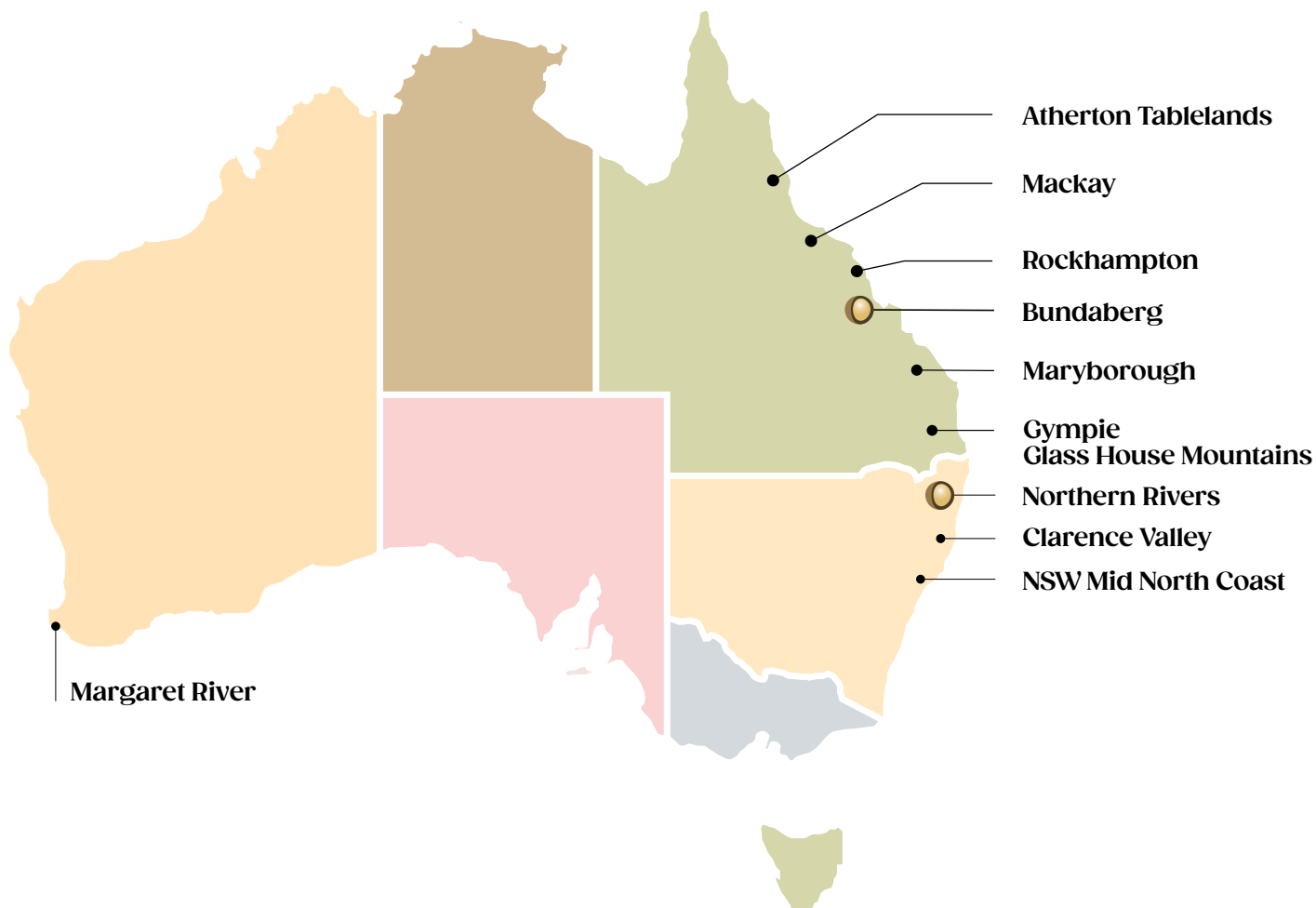
**75%**

**Production exported**

<sup>1</sup> Source: Tree Mapping and AMS Forecasting projects

# Major Australian growing regions

Macadamias are grown along the eastern coast of Australia from the NSW Mid North Coast in the south to the Atherton Tablelands in the north. Collectively Bundaberg and the Northern Rivers region produce around 80% of the Australian crop.



## Production by growing region:

NSW Mid North Coast	Clarence Valley	NSW Northern Rivers	SE QLD	Gympie	Maryborough	Bundaberg	QLD Tropical	WA	Total
1,860	250	15,219	3,916	2,477	2,652	26,980	586	10	53,950
3%	<1%	28%	7%	5%	5%	50%	1%	<1%	100%
<b>NSW</b>			<b>QLD</b>				<b>WA</b>		
17,329			36,611				10		
32%			68%				0%		

**Table 1:** Australian macadamia production by growing region for 2024 season. Tonnes in shell, 3.5% moisture content.  
**Source:** Australian Macadamia Handlers Association

Australia is home to approximately 800 macadamia growers and as at November 2024 has 44,129 hectares planted. Australia produced a crop of 53,950 tonnes in shell at 3.5% moisture content for the 2024 season. The 2024 harvest season presented some weather challenges for growers with prolonged heat and then extended wet weather

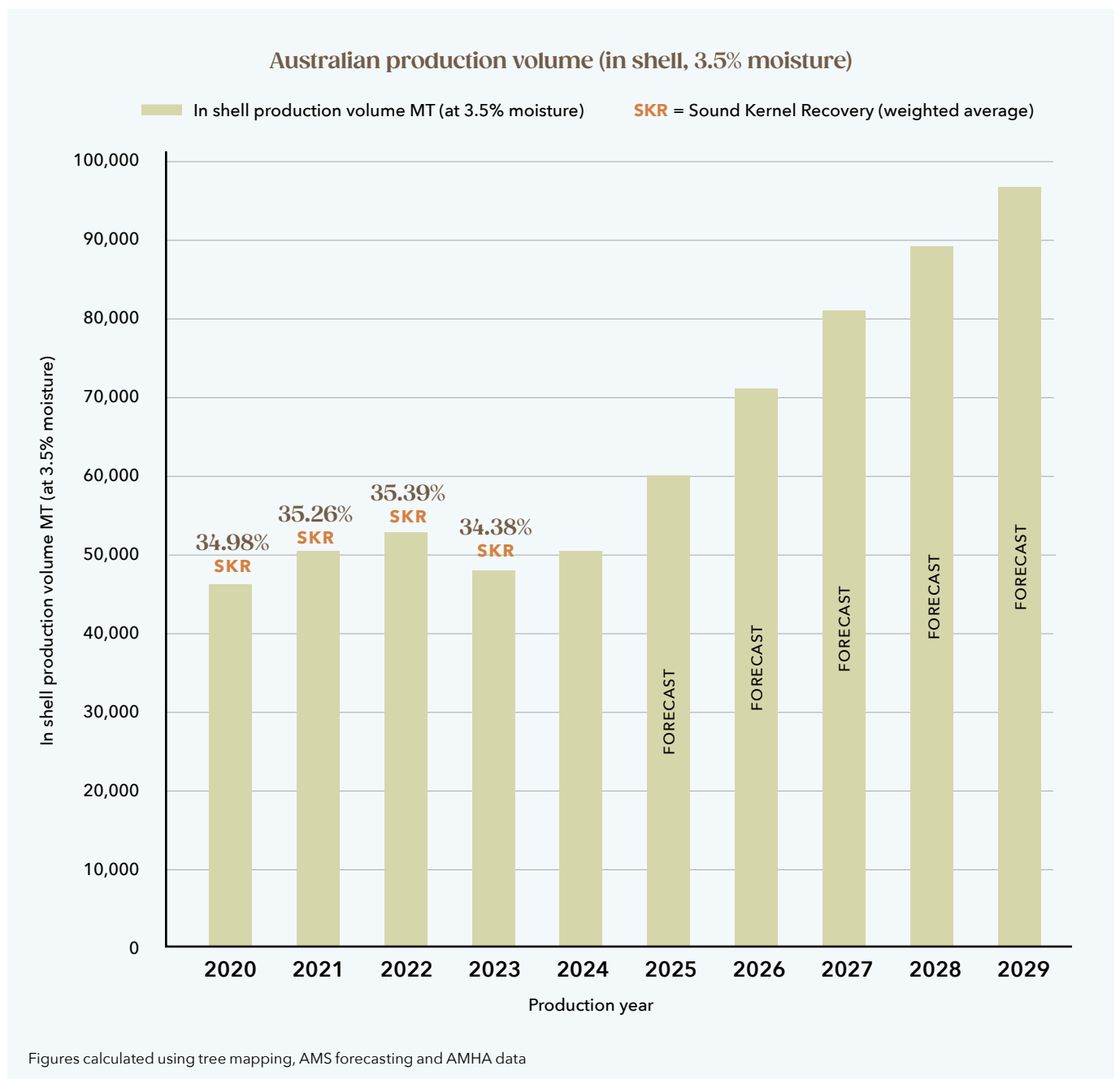
causing yield losses across key growing regions. Bundaberg experienced an extended period of hot weather early in the growing season, while in most other regions wet conditions significantly hindered growers. Despite this, the Australian crop finished 11.5% higher than the previous year with improvements in kernel recovery and nut size compared to 2023, and sound overall quality.



# Season and productivity

The macadamia growing season can be broken down into three main periods:

<b>August - September:</b>	Flowering begins
<b>October - January:</b>	Nuts begin to form in clusters, their shells harden, and oil rapidly accumulates
<b>February - August:</b>	Mature nuts fall to the ground and are harvested with purpose-built harvesting machinery



# Industry insights

## Global tree nut production\*

World tree nut production has been trending upwards over the past decade. Between 2014 and 2024, tree nut production (in-shell basis) experienced a compound average growth rate (CAGR) of 4.9%.

Between 2020 and 2023, production was stable. In 2023 production returned to growth and continued in 2024 with total production of 14.0 million metric tonnes (in-shell basis), up 4.4% on prior year.

Cashews and almonds were the largest crops in 2024 (in-shell basis), accounting for 34% and 23% of the global share, respectively, followed by walnuts (19%), hazelnuts (10%), and pistachios (8%). Given the differing yields per nut, the share of production when viewed on a kernel weight basis presents a different picture for the top three nuts, with almonds the largest crop at 33% followed by walnuts (21%), cashews (19%), hazelnuts (11%) and pistachios (10%).

## Global macadamia production

Macadamias represent less than 2% of global tree nut production, so significant potential exists to increase consumption. Global macadamia production is on the rise, with established growing regions continuing to expand their plantings and emerging regions expected to feature significantly in future global production.

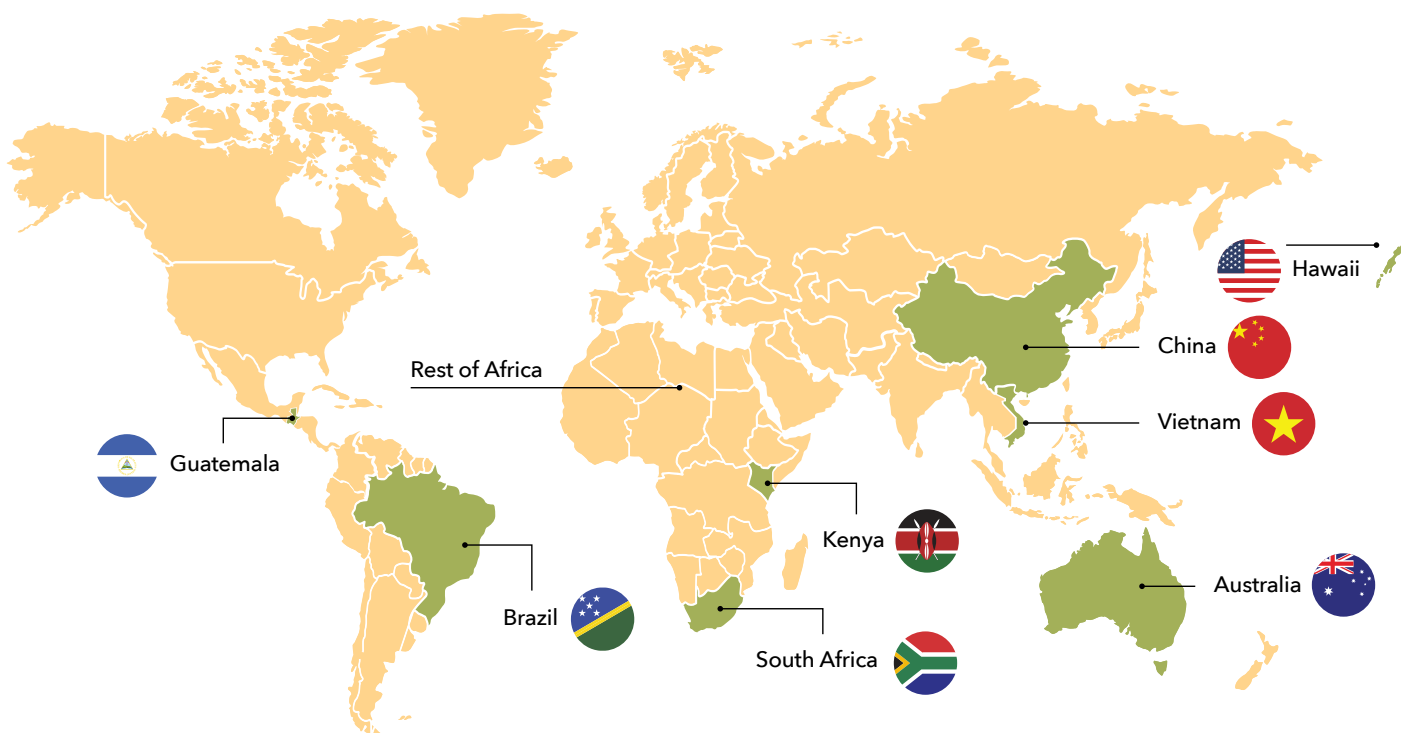
Production of macadamias is currently more evenly distributed than the other major tree nut varieties, with no single producer representing more than 30% of production. However, this has not made the supply of macadamias immune to the effects of major weather events. The world's largest producers are South Africa, China and Australia, followed by Kenya.

The World Macadamia Organisation (WMO) was established as an independent not-for-profit organisation in 2021 to promote macadamias globally, stimulating growth by creating awareness and understanding, both in existing and untapped markets. The Australian macadamia industry is a member of the WMO's Strategic Foundations Committee which undertakes a number of activities for the global industry, including coordinating the industry strategy, data collection and insights dissemination, creating product standards, evolving nutritional messaging, and developing industry-wide sustainability positioning.

The WMO's strategy targets behaviour shifts in kernel snacking and ingredient usage through advertising and promotion plans to drive volume uplifts in the major markets of USA and China and the important emerging market of India.

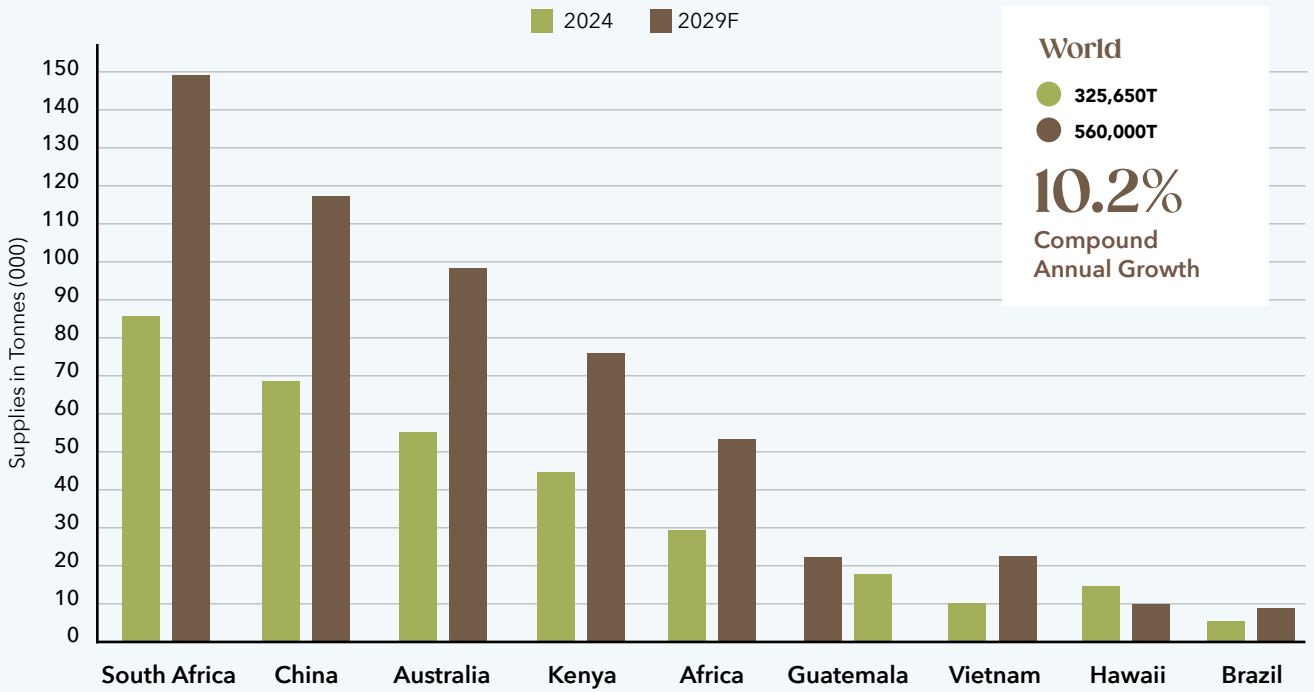
LoveMacadamia™ is the WMO's consumer facing platform to build awareness and understanding.

## Macadamia producing regions



\*Source: International Nut & Dried Fruit Council (INC)

### 2024-2029 global macadamia production (nut in shell)



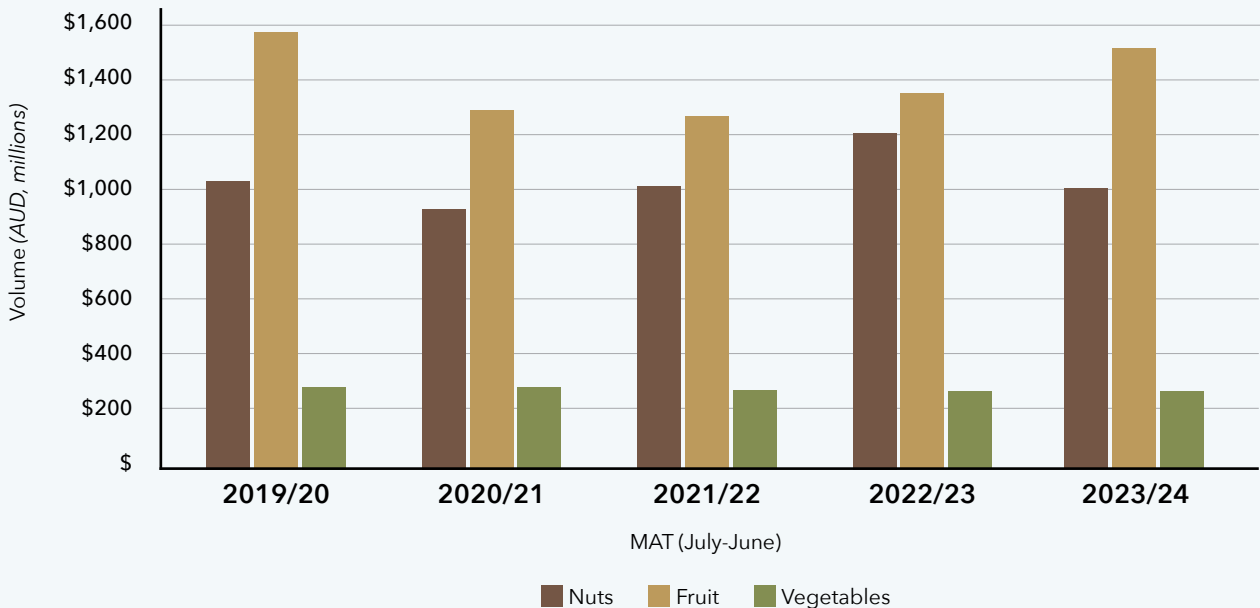
Source: International Nut & Dried Fruit Council and AMHA for 2024; industry estimates for 2029  
 Note: Nut-in-shell @3.5% moisture

### Australian nut industry

Nuts play a vital role in Australia’s horticultural export program, demonstrated by their export value of \$1 billion to 12 months to June 2024. Almonds and macadamias represent the vast majority of Australia’s nut export value at 94%.

Macadamias are the most valuable horticultural industry in both New South Wales and Queensland and Australia’s fourth largest horticultural export, with almonds the largest.

### Australian horticultural exports



Source: Australian Bureau of Statistics



## Australian macadamia industry

The Australian macadamia industry achieved a crop of 53,950 tonnes (in-shell at 3.5% moisture) for the 2024 season, with around 75% exported.

The last decade has seen substantial changes take place in terms of the size and demography of the industry, with an additional 20,000 hectares planted and an increase in professionalism and corporate investment. It's anticipated this will see the crop almost double to 97,461 tonnes (at 3.5% moisture) in 2029.

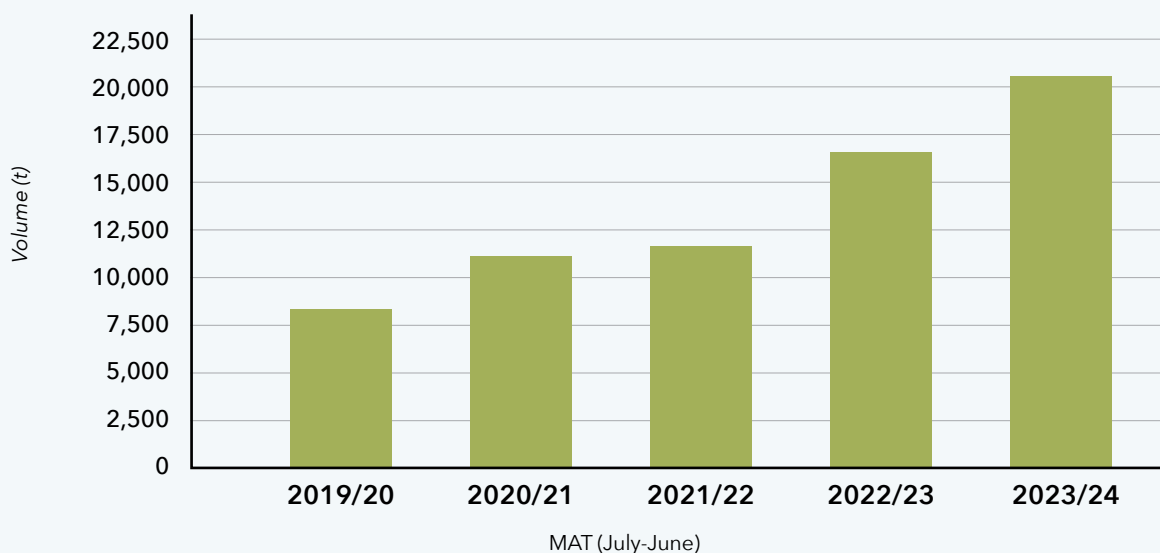
## Australian macadamia sales

Overall, the Australian macadamia industry enjoyed an improved position compared to the previous year, with farm gate prices up and global demand increasing. However, it wasn't without its challenges, with production lower than originally expected and cost of living pressures continuing to impact consumption, particularly in the USA.

For the 12 months to June 2024, exceptionally high volumes of nut-in-shell continued to enter the China market for a second year. Sales of nut-in-shell were up 24% on the prior 12 months, again impacting the crop available for kernel and with limited inventory available from 2023, kernel sales were down 8%.

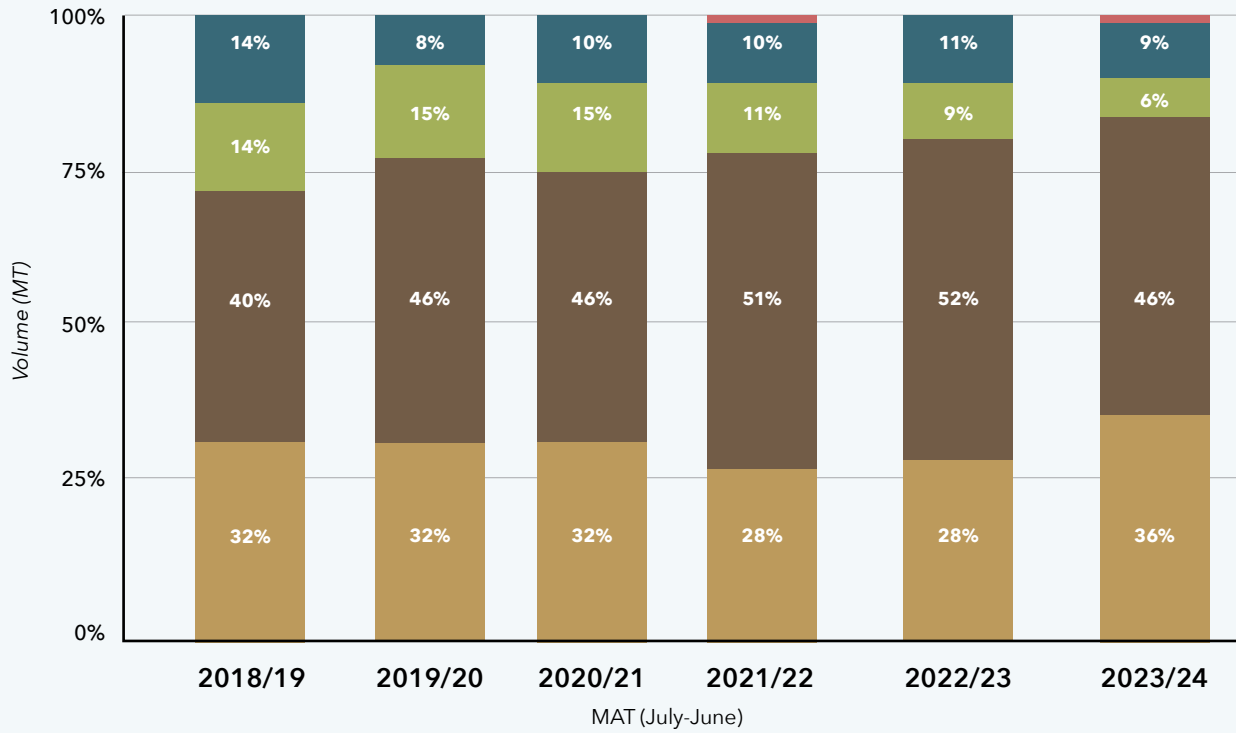
The majority of Australia's kernel sales are to the Australian and Asian region, which account for 84% of total sales. The domestic and South Korean markets continued to grow strongly, with sales to all other markets below prior year due to increased competition from other origins and kernel availability.

Australian in shell sales (volume)



Source: Australian Macadamia Handlers Association

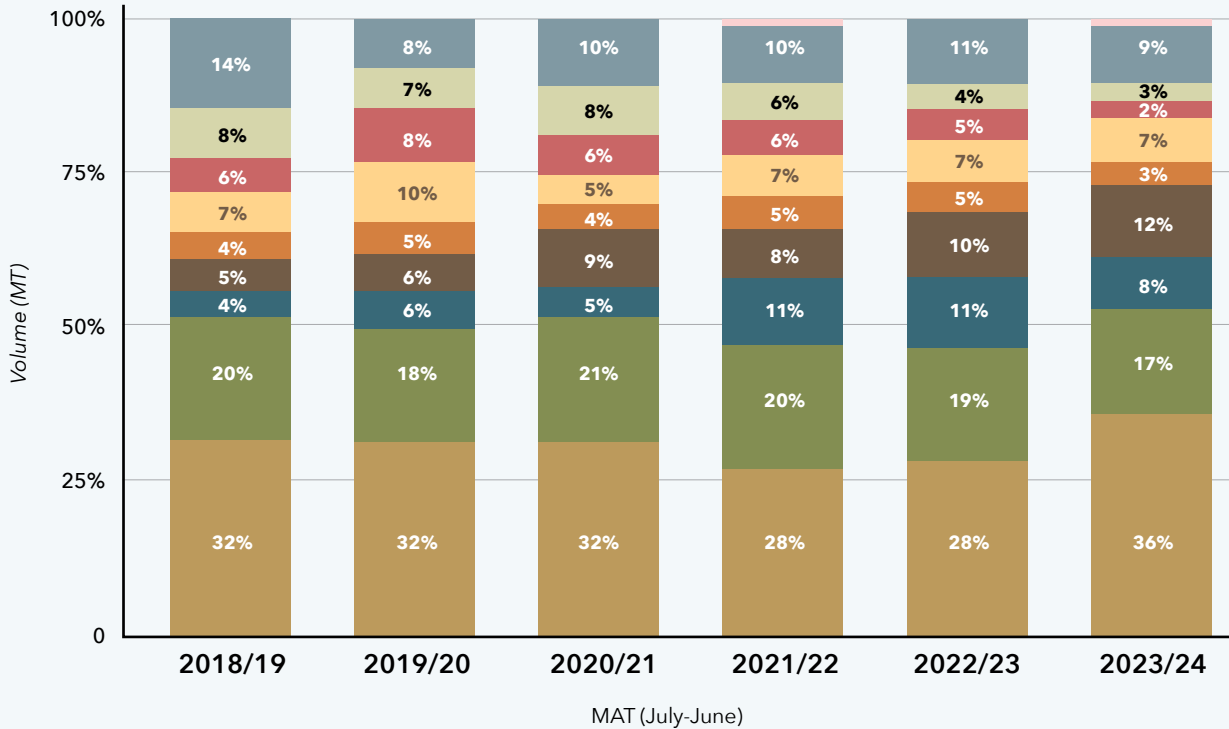
Australian kernel sales distribution by region (volume)



Source: Australian Macadamia Handlers Association

Domestic Asia Europe USA Other

Australian kernel sales by market (volume)



Source: Australian Macadamia Handlers Association

# An industry-wide commitment to long-term sustainability

Innovative thinking and a collaborative spirit are the driving forces behind the Australian macadamia industry's desire to achieve consistent high-quality yields, and long-term sustainability.

And with the call for sustainable production growing louder every year, the responsibility to produce the world's best macadamias as eco-sensitively as possible is felt and shared by everyone from the largest operators in the processing sector right through to new growers navigating their first season.

*“Australian macadamia growers are deeply committed to sustainable production and believe the actions they take on-farm today must benefit the environment and people in the future.”*

## A deep commitment to sustainable farming

Australia is recognised internationally as a clean, green and reliable food producer. Australian macadamia growers are deeply committed to sustainable production and believe the actions they take on-farm today must benefit the environment and people in the future.

Feeling a true affinity for the land on which they farm, Australian macadamia growers take great care to develop and implement ecologically sensitive techniques to protect the natural environment. Our industry invests millions of dollars in research every year to ensure our practices are the world's best and that the natural resources on which our industry relies to grow this delicious wholefood are managed as efficiently as possible.

More Australian growers than ever are now actively monitoring and measuring their operation's sustainability practices, delivering the data and transparency that today's market demands.

## Working with nature from the ground up

As growing and orchard management practices become more advanced, so too does understanding of the environment and how it is changing. Macadamia growers remain committed to conserving the natural resources on which their product relies, and now more than ever, are prioritising the protection of the water, soil, air, native vegetation and wildlife.

While growers have been challenged by a year of variable weather, they have continued to focus on working with nature to consolidate orchard fundamentals.

- **Soil health:** By increasing soil carbon, mulch and organic matter on the ground to replicate a rainforest floor environment, growers are nurturing soils that take up and conserve water and creating a more resilient orchard floor that can stop evaporation and mediate soil temperature.
- **Biodiversity:** Planting grasses, brassicas and legumes between and around the macadamia trees increases the orchard's biodiversity, creating a harbour and food source for beneficial insects that provide a natural means of pest control, while encouraging natural pollinators.
- **Canopy management:** Sunlight is a natural enabler of a healthy crop and helps to maintain a balanced orchard ecosystem and growers are proactively managing the structure of their trees to increase the amount of light in the orchard.
- **Waterways and marine estates protection:** Growers have invested significantly on-farm, improving vegetation around riparian zones and further embracing use of natural orchard management practices to enhance the quality of waterways and marine estates including the Great Barrier Reef.

Macadamia trees are largely grown in the locations where they naturally evolved more than 60 million years ago, meaning it is a crop that has naturally adapted to its environment. This natural advantage and inherent resilience coupled with the ongoing improvements growers are making will ensure the industry can continue to produce a high quality, consistent crop.



## Answering the call for sustainable ingredients

The era of meeting demand at any cost is well and truly gone as businesses, governments and consumers across the globe grapple with the environmental impacts of their choices large and small.

According to FMCG Gurus<sup>1</sup>, there's a shift towards 'responsible consumerism' underway, with many consciously choosing brands that prioritise sustainability, and this is driving demand for environmentally friendly ingredients, products and practices.

More than 60% of consumers tried to have a positive impact on the environment in 2024—a figure that's remained consistent since 2020. And nearly two thirds are worried about climate change<sup>2</sup>. In the last two years, 24% of consumers say they've actively boycotted a product/brand because of their

ethical credentials, 30% changed retailers to one that is more environmentally friendly, and 38% have chosen one product over another because it was more environmentally friendly. Furthermore, 48% have reduced plastic use, 47% have made a greater effort to conserve energy, and 44% have made greater efforts to avoid food wastage<sup>2</sup>.

Manufacturers already understand the taste, texture, health, luxury and plant-based cues macadamias can add to products. Macadamias grown in Australia deliver powerful, research-backed sustainability credentials too, from water use efficiency and carbon sequestration to minimisation of carbon outputs, recycling of by-products and world's best biological control.

1. FMCG Gurus, First 5 Trends for 2025, October 2024

2. Euromonitor International, Voice of the Consumer: Sustainability Survey, fielded January to February 2024





## A framework for the future

In the globalised supply chain, consumers are showing an increasing interest in understanding more about where their food comes from and how products are produced. Similarly, supply chain companies and their shareholders, markets and investors are seeking evidence of high standards of product safety, workplace ethics and environmental care.

Hort Innovation has developed the Australian-grown Horticulture Sustainability Framework, a guide for understanding and measuring the many elements of sustainability of Australian-grown horticultural production and setting goals for the future. The Australian macadamia industry has started using this to develop its own industry approach.



The Australian-grown horticulture sustainability framework provides a logical process to measure how Australian horticulture is tracking on key sustainability issues. With this information, Australian horticulture, its industries and businesses can:

- Measure and track the sustainability of their production systems
- Work towards safe, ethical and environmentally sustainable production practices
- Find simplified ways to gather or model data on the sustainability metrics of production systems to meet supply chain needs and reduce burden on individual growers
- Work together on common challenges across the sector
- Target research
- Tell their story of sustainable production
- Protect and grow access to investment and finance
- Strengthen relationships and transparency with stakeholders.

## Mapping advances continue to prove invaluable

Significant effort has been invested in macadamia orchard mapping and it has proven to be a vital crisis management tool. Known as 'remote sensing', mapping is an agricultural tool that has been introduced to macadamia growing and it's playing a crucial role in better understanding crop forecasting, orchard health and productivity improvements. It's also an important futureproofing tool, helping to ensure resilience in the event of a biosecurity threat, and identifying and recording the locations of wild macadamia species.

When the varroa mite incursion occurred in 2023, mapping was used as a biosecurity tool, with the incidence and spread of varroa mapped and tracked against macadamia orchards.

In 2022 and 2023, mapping of storm and flood damage helped to determine the extent of the damage and informed disaster response plans.

In 2023 a new R&D project commenced which is taking mapping to a more granular level. While previous mapping advances have determined the location of macadamia trees at a macro level, helping to identify fire, flood and biosecurity risks, the new project is identifying where specific macadamia cultivars are located on a block by block basis. This is helping to determine locations that are vulnerable to particular pest and disease risks, as some cultivars are more susceptible than others.

Mapping is also proving to be a valuable advocacy tool as it demonstrates the macadamia industry's water usage to government to help inform the water security needs of major growing regions.

## Using R&D to drive ongoing improvement

Australia's macadamia industry leads the world in terms of on-farm research and development. More than three decades of commitment to R&D has laid the foundation for growers to develop practical solutions that ensure consistent supply of premium quality macadamias.

The industry invests over \$5 million in R&D annually through levy and other industry and research agency investments. Recent years have seen a surge in grower-led innovation as well, with many growers investing in their own trials and implementing innovative new practices on farm as a result. Adoption of new technology, enviro-monitoring and more efficient, targeted and precise irrigation scheduling are paving the way for continued long-term growth in Australian macadamia production.

These important investments will help to improve productivity while aligning with environmental stewardship and sustainable practices.

Several innovation projects were ongoing in 2024, including the Hort Frontiers-funded Tree Intensification initiative that aims to boost crop yield per hectare, advances in pollination, and a 20-year breeding program that is seeing trees bred for better yields, higher pest and disease resistance and more manageable canopies. This year saw greater uptake and planting of these new cultivars which are generally smaller, more efficient and prolific trees that will start to form a good crop 3-4 years after planting, rather than the 5-7 year juvenile phase that is typical of traditional cultivars.



Advances in pollination brought about by improved understanding of its importance and of which insects pollinate most effectively has resulted in cross-pollination becoming a significant consideration when planting new orchards. The Hort Frontiers Pollination Fund covers multiple crops including macadamias, and this has seen many growers adopting pollination services and redesigning their orchard landscapes to create a safe harbour for natural pollinators. Pollination contributes to greater yields and better kernel recovery, again proving that working with nature is often the best strategy.

**2024 saw ongoing R&D investment in the following areas:**

- Integrated pest management\*
- Integrated disease management\*
- Industry benchmarking which includes a sustainability pilot\*
- Multiple water quality projects including reef certifications and marine estuary health
- Macadamia physiology to understand how climatic signals influence the inner workings of the tree in response to climate variability\*
- Macadamia tree mapping (as detailed on page 12)

*\*These research projects have been funded by Hort Innovation, using the macadamia research and development levy and contributions from the Australian Government. Hort Innovation is the grower owned, not-for-profit research and development corporation for Australian horticulture.*

## **Serious about food safety and quality**

Food safety is a top priority for Australia's macadamia industry. Its approach is underpinned by sophisticated production processes, generations of knowledge about quality on farm and in factory, a commitment to biological pest control, and Australia's reputation as a clean and green environment.

The Australian macadamia industry has rigorous food safety & quality standards, and testing protocols. Good agricultural practice (GAP) on farm underpins a quality and food safety focus that extends throughout the supply chain.

All processors are HACCP certified and most have additional quality management systems, to ensure compliance from orchard to end customer

This year has seen advances made in the traceability space to complement existing food safety practices. Increasingly sophisticated systems are being developed that will trace an Australian grown macadamia's precise origin, ultimately delivering quality improvements throughout the supply chain.

Australia's standing as the producer of premium quality macadamias is validated by the results of the Australian Government's National Residue Survey, a program that screens Australian crops for a range of chemical pesticides and environmental contaminants. In 2024 Australian macadamias achieved 100% compliance in the NRS for the 27th consecutive year – a record unmatched by any other Australian fresh product.



# At a glance: the Australian macadamia industry's sustainability and productivity initiatives



## Precision agriculture

Mapping tools, weather stations and soil moisture probes are informing orchard operations and helping to improve efficiency of water use on farm.



## Integrated orchard management

Integrated management of canopy, orchard floor and drainage.

### • CANOPY

Light and ventilation in the orchard improves productivity but also supports biodiversity - the beneficial insects and birds that keep pests at bay thrive in these conditions.

### • ORCHARD FLOOR

Creating organically rich and healthy soil that is cover cropped and adequately moist.

### • DRAINAGE

Keeping precious soil where it's meant to be and keeping orchards resilient to adverse conditions.



## Integrated pest and disease management

Combining a range of strategies including biological controls and cultural farm practices, IPDM continues to be a significant investment for the industry. By creating a pest suppressive landscape and monitoring and understanding pest lifecycles, growers can better discern when intervention is needed.



## Biological control and diversity

Collaborative research examining biological control is currently being undertaken by multiple research agencies. This will build on the industry's use of naturally occurring organisms to control pests and disease. Orchards are now boasting more diversity than ever, with many growers establishing inter-rows in their orchards to create habitats for beneficial insects, native bees and other pollinators such as flies and beetles. This is delivering production benefits as well as a more sustainable way of growing.



## Improved soil erosion management

Significant work has been undertaken to better mitigate soil erosion using whole farm planning and re-contouring that helps to balance nutrients, prevent nutrient run-off, and monitor and manage water quality. The use of cover crops plays an important role in this area, encouraging beneficial insects while retaining soil and moisture levels.



## Revegetation and restoration of riparian zones

Riparian zones are extremely sensitive to any activity occurring in and around them, with careful management required to ensure no adverse impact on the waterways. The industry is restoring these precious zones and planting more native vegetation to encourage biodiversity and natural resilience, control erosion and create a naturally pest-suppressive landscape.



## Increase in use of both European and native bees

Insect pollination by both managed and naturally occurring bees and other insects are beneficial to the crop.



## Increased use of tree shakers

Many bearing orchards in Australia's largest growing region of Bundaberg have now adopted tree shaking technology and uptake is expanding to other regions too. Delivering improved harvest efficiency and quality by providing access to every single nut grown, tree shaking also provides the orchard with the chance to 'reset' by removing nuts that may otherwise support pests and diseases, and physiologically preparing the tree for the next season.



## Nothing wasted

The macadamia industry is making inroads to developing a circular economy. 100% of the harvested nut is used, with nothing going to waste. The husk is used as mulch and compost and the shell is used for co-generation of electricity in macadamia processing plants. Some macadamia processors are now repurposing their nutshell waste into biochar, which is the result of burning macadamia shells at a high temperature in a special, low oxygen environment. Used as a soil enhancer, biochar makes soils more fertile and stores carbon in the soil so it's not released as a greenhouse gas. Biochar production creates oil and gas by-products that can be used as fuel for renewable energy plants.



## Breeding programs

Macadamias are part of some long term breeding programs that capitalise on the selection of natural favourable characteristics, not genetic modification. The MCT1 macadamia cultivar was produced following a long breeding history and testing in multiple regions. It has gone on to become one of the most sought-after varieties in the industry. The levy-funded breeding program has produced four elite varieties which are starting to be planted more widely. It is anticipated these could be game-changing for productivity.



# Macadamia Conservation Trust

**To secure the industry's future,  
it's important to preserve the past.**

It's a little-known fact that macadamias are native to Australia. They originated in the rainforests of the east coast 60 million years ago and Australia is the only country in the world where macadamias grow wild. From South Africa to Hawaii, China to Kenya, every single macadamia tree in the world can be traced back to the wild macadamia trees that still grow in the Australian rainforest.

Over millions of years macadamias retreated to favourable niches in the rainforests along the east coast from Gladstone in Queensland to northern New South Wales. But since European settlement, up to 90% of wild macadamias have been lost due to land clearing, with wildfires, grazing, weeds and climate change posing ongoing threats to their survival. There are four wild macadamia species, all of which are now classified as either vulnerable or critically endangered by the Australian government.

Conserving the genetic diversity found among all four endangered wild species plays an important role in securing the future of the macadamia industry. Wild macadamias offer a wealth of genetic diversity and many of the commercially grown macadamia cultivars the industry relies on today are from a very narrow genetic base. The DNA of wild macadamias holds significant untapped potential for development of the macadamia industry world-wide. It could hold the key to breeding commercial macadamia cultivars that are not only more productive, but better adapted to changing weather patterns, and emerging pests and diseases.

As the only home of wild macadamia trees, Australia is the guardian of this diversity. The Australian Macadamia Society (AMS) established the Macadamia Conservation Trust (MCT), a not-for-profit environmental organisation that works with community groups and government to conserve remaining wild macadamia trees in their native habitat for future generations.

*Amama Creek on the Walk with Wild Macadamias in the Noosa Hinterland (Image courtesy of Ian McConachie)*





*“Conserving the genetic diversity found among all four endangered wild species plays an important role in securing the future of the macadamia industry.”*



Healthy flowering of wild *M. janseni* (Image courtesy of Ray Johnson)



**Australia now has a National Recovery Plan to guide protection of wild macadamias.**

The first Recovery Plan for macadamias, adopted in 2012, was commissioned by Horticulture Australia Limited and the Australian Macadamia Society in recognition of the value of wild macadamias as genetic reservoirs for macadamia farmers both in Australia and internationally. The AMS is the only industry body in Australia to initiate a recovery plan for conservation of the wild species on which its industry is based.

2023 delivered a significant milestone in the form of a National Recovery Plan made jointly by the Federal and Queensland State Governments to guide the protection of Australia’s precious but endangered wild macadamias. Just as we rely on other countries to safeguard genetic resources for most of the food we eat, Australia has an obligation to look after the genetic resources of our native nut. Protecting wild macadamias and their habitat will conserve high value forests including endangered and critically endangered ecological communities.



*Macadamia ternifolia* - one of four wild macadamia species (images courtesy of MCT)



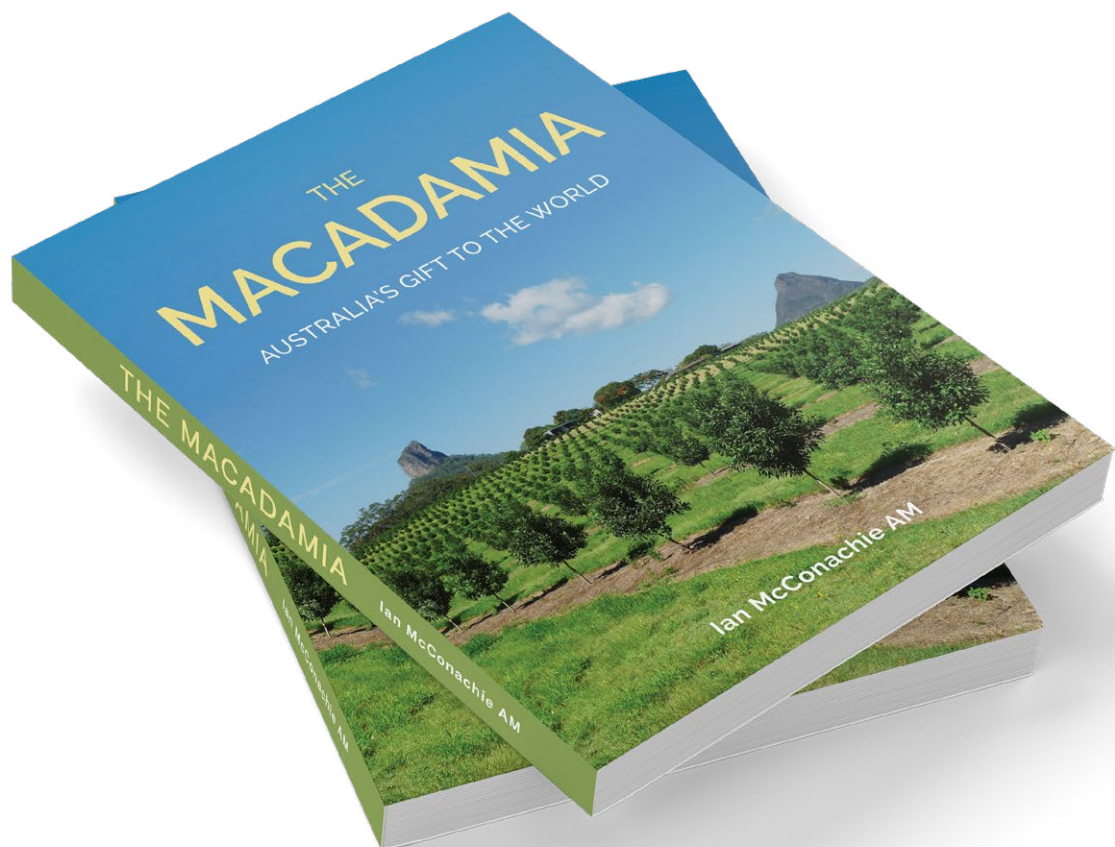
## In 2024 the Macadamia Conservation Trust supported both threat management and research projects.

A powerful consortium of the Burnett Mary Regional Management Group, Gidarjil Land and Sea Rangers, Queensland Parks and Wildlife Service and the Macadamia Conservation Trust joined forces to manage threats to the Critically Endangered *Macadamia janseni*. Funded by a \$500,000 Federal Government Saving Native Species (Priority Species) grant, the consortium is tackling fire and invasive weed species as well as building on habitat restoration plantings with the University of the Sunshine Coast.

Research support included the inaugural Ian and Janet McConachie Macadamia Conservation Research Grants. The very first grant was awarded to Mollie Cooper at Southern Cross University to look for arbuscular fungi in wild *M. tetraphylla*, and a second grant, administered

in partnership with the Australian Flora Foundation was awarded to Dr Albert Wong in 2024 for his research into specific tissue culture protocols for *M. janseni* with the aim of being an alternative solution to maintaining and storing living germplasm of this rare species.

2024 also saw the publication of *The Macadamia - Australia's Gift to the World*, a book by Ian McConachie AM. Ian is a member of the Order of Australia for services to the macadamia industry and his book provides a comprehensive history of macadamias and the growth and development of the macadamia industry. His knowledge of the people and history of the industry is second to none, and Ian has generously gifted this book to the MCT to manage as a resource for conservation of the wild macadamias on which the industry depends.



# Section 2: Health





# Macadamia health and wellbeing benefits

Consumers are more interested in health and wellbeing than ever, with most identifying eating well as one of the keys to optimising wellbeing.<sup>20</sup>

The growing interest in understanding the specific functional benefits of foods is being accompanied by an appetite amongst consumers to pay more for products and ingredients which offer the benefits they are seeking.<sup>21</sup> The body of evidence to support the role of nuts in living a long, healthy and happy life has grown substantially in recent years.

With the low-fat diet movement now a thing of the past and plant-based eating on the rise, nuts have become one of the most relevant foods for today's consumer - and macadamias are no exception. Enjoyed as a snack, as part of a main meal or applied as oil to the skin, macadamias offer a host of essential nutrients. They're also ideal as part of a Mediterranean or low FODMAP diet, as well as keto, paleo and vegan eating. Macadamias are the richest source of healthy monounsaturated fats of all tree nuts and are abundant in phytochemicals that support a healthy heart and brain as well as protein and fibre.

## Heart health

Research shows that many consumers seek out foods that are rich in healthy fats in order to support heart health.<sup>20</sup> In 2019, a systematic literature review around nuts and heart health<sup>8</sup> showed that eating nuts, including macadamias, every day is associated with improvements in several aspects of heart health.

- **Macadamias and healthy cholesterol:** Regular consumption of nuts like macadamias has been shown to improve the ratio of 'good' (HDL) and 'bad' (LDL) cholesterol. Macadamia nuts are a rich source of phytosterols - natural, cholesterol-like substances found in many plant foods. Plant sterols can reduce cholesterol levels by being absorbed instead of some of the 'bad' (LDL) cholesterol, which results in reductions in blood cholesterol levels.<sup>9</sup>
- **Macadamias and blood pressure:** Macadamias contain the amino acid arginine, which acts as a precursor to the chemical messenger nitric oxide that causes blood vessels to dilate and remain elastic. This can reduce blood pressure among other benefits.<sup>10</sup>

## Healthy weight

Eating a handful of macadamias every day can play a role in helping maintain a healthy body weight. They satisfy hunger and make us feel fuller for longer. While many people used to think the high fat content of nuts would lead to weight gain, we now know this is not the case. The PREDIMED Trial found eating nuts as part of a balanced diet resulted in a reduction in participants' waist circumferences.<sup>11</sup>

In 2023, new research findings were released confirming that macadamia consumption does not lead to weight gain and may have other positive benefits on cardiometabolic risk factors for overweight and obese adults. Known as the MAC (Macadamia Nut Effects on Adiposity and Cardiovascular Risk Factors)<sup>22</sup> study, it analysed how macadamia consumption affects body weight, waist circumference and other cardiometabolic risk factors. The results showed that consumption of macadamias did not lead to changes in waist circumference, body mass or percentage of body fat.

In 2024, Nuts for Life published a summary of the scientific evidence<sup>23</sup> related to nuts and weight management, concluding that even though nuts are energy dense, populations that regularly consume them have less weight gain and a lower risk of obesity, and people who regularly consume nuts maintain a more consistent weight compared to non-consumers<sup>24</sup>.

## Skin support

The manganese in macadamias is essential for your skin to produce the collagen it needs to stay plump and wrinkle free. They are also high in palmitoleic acid to help replenish your skin's youthful glow<sup>19</sup>. Macadamias are an excellent source of protein, calcium, potassium, dietary fibre and a number of antioxidants - all of which we need to maintain glowing skin, strong nails and shiny hair.

## Antioxidant power

Oxidative stress is caused by harmful free radicals that form in the body due to the numerous chemical reactions occurring. It contributes to inflammation, premature ageing and chronic diseases.<sup>1,2</sup>

Studies show that eating naturally antioxidant-rich macadamia nuts as part of a diet filled with fruits, vegetables and wholegrains improves markers of oxidative stress therefore reducing your risk of chronic disease and premature ageing.<sup>3</sup> Macadamias contain some of the highest levels of antioxidants of all tree nuts, including the antioxidant minerals manganese, magnesium and copper, which help keep the immune system healthy. They are also rich in tocotrienols - a form of vitamin E that shows antioxidant properties - that may help lower cholesterol and protect against cancer and brain diseases.<sup>4,5,6,7</sup>

## Brain and mental health

Today's consumers place high value on foods that can support their brain health to help with overall mood and wellbeing.<sup>20</sup> The copper, magnesium and manganese in macadamias help maintain healthy neurotransmitters in the brain, while their palmitoleic acid forms an important component of the myelin sheath that insulates and protects nerve cells to allow electrical impulses to transmit efficiently around the whole body, including in the brain.<sup>12</sup> Macadamias contain vitamin B1 (thiamine) that is essential for the proper functioning of your nervous system. Having a healthy heart is linked to brain health<sup>14</sup> and so the monounsaturated fats, vitamin E, antioxidants and other compounds in macadamias that are good for our heart will support our brain function too. Macadamias contain oleic acid (omega 9) which helps keep blood pressure low, reducing the risk of stroke. A recent research trial showed that people who ate nuts regularly had a lower risk of depression.<sup>18</sup>



## Diabetes management and prevention

Macadamias are an ideal food for those with diabetes or raised blood glucose levels. Eaten on their own, they are a low-GI snack packed with healthy monounsaturated fats. They're also a perfect companion food to help lower the GI of carbohydrate-containing meals and snacks.<sup>13</sup>

- **Good for blood sugar levels:** containing only small amounts of carbohydrate, macadamias have a positive influence on blood glucose levels. The fat, protein and fibre they contain also helps lower the GI of a meal or snack that contains carbohydrates by slowing the digestion and therefore the release of glucose from carbohydrate-containing foods.<sup>13</sup>
- **A diabetes-friendly choice:** Nuts like macadamias also contain nutrients, fat, fibre and polyphenols that can help improve insulin function, meaning blood glucose levels don't rise as much after eating.
- **Diabetes prevention:** Eating nuts like macadamias can help with the prevention of type 2 diabetes. An analysis of multiple studies found eating 30g of nuts four times a week reduced the risk of developing type 2 diabetes by 13%.<sup>15,16,17</sup>

## Gut health

One of the top benefits consumers are now seeking from the food they choose is gut support to help with overall mood and wellbeing, and fibre to support digestion.<sup>20</sup> Just one handful of macadamia nuts contains 2g of dietary fibre, similar to a slice of wholemeal bread. Dietary fibre is important for bowel regularity. Nuts like macadamias also contain prebiotic fibre. This is fibre that is a fermentable food for your gut's natural bacteria and fungi (called microflora). When this prebiotic fibre is fermented by gut bacteria, short chain fatty acid gases are produced that are beneficial to the lining of the gut. This activity plays a role in the production of the 'happy hormone' serotonin as well as influencing hormones that affect weight management, appetite, blood sugar levels and the immune system. So by eating prebiotic fibre you are stimulating a healthy colony of gut bacteria to benefit your overall health.

## HEALTH AND WELLBEING REFERENCE LIST

1. Bolling BW, Chen C-YO, McKay DL, Blumberg JB. Tree nut phytochemicals: composition, antioxidant capacity, bioactivity, impact factors. A systematic review of almonds, Brazils, cashews, hazelnuts, macadamias, pecans, pine nuts, pistachios and walnuts. *Nutr Res Rev.* 2011;24(2):244-275. doi:10.1017/S095442241100014X
2. Rahman K. Studies on free radicals, antioxidants, and co-factors. *Clin Interv Aging.* 2007;2(2):219-236. <https://www.ncbi.nlm.nih.gov/pubmed/18044138>
3. Garg M, et al. Macadamia Nut Consumption Modulates Favourably Risk Factors for Coronary Artery Disease in Hypercholesterolemic Subjects. *Lipids.* 2007;42(6):583-7
4. Bolling BW, McKay DL, Blumberg JB. The phytochemical composition and antioxidant actions of tree nuts. *Asia Pac J Clin Nutr.* 2010;19(1):117-123. <https://doi.org/10.1017/S095442241100014X>
5. Wall MM. Functional lipid characteristics, oxidative stability, and antioxidant activity of macadamia nut (*Macadamia integrifolia*) cultivars. *Food Chemistry.* 2010;121(4):1103-1108. doi:10.1016/j.foodchem.2010.01.057
6. Sen CK, Khanna S, Roy S. Tocotrienols: Vitamin E Beyond Tocopherols. *Life Sci.* 2006;78(18):2088-2098. doi:10.1016/j.lfs.2005.12.001
7. Garg ML, Blake RJ, Wills RBH, Clayton EH. Macadamia nut consumption modulates favourably risk factors for coronary artery disease in hypercholesterolemic subjects. *Lipids.* 2007;42(6):583-587. doi:10.1007/s11745-007-3042-8
8. <https://www.nutsforlife.com.au/resource/nuts-and-heart-health-a-summary-of-the-evidence/>
9. Rocha, M., et al., A review on the role of phytosterols: new insights into cardiovascular risk. *Curr Pharm Des.* 2011. 17(36): p. 4061-75.
10. Boger, R.H., The pharmacodynamics of L-arginine. *Altern Ther Health Med.* 2014. 20(3): p. 48-54.
11. Estruch, R., et al., Effect of a high-fat Mediterranean diet on bodyweight and waist circumference: a prespecified secondary outcomes analysis of the PREDIMED
12. Kim E, Ko HJ, Jeon SJ, et al. The memory-enhancing effect of erucic acid on scopolamine-induced cognitive impairment in mice. *Pharmacol Biochem Behav.* 2016;142:85-90. doi:10.1016/j.pbb.2016.01.006
13. Vigiouliouk E et al. Effect of tree nuts on glycemic control in diabetes: a systematic review and meta-analysis of randomised controlled trials. *PLoS One* 2014;9(7):e103376
14. Grodstein F. Cardiovascular risk factors and cognitive function. *Alzheimers Dement.* 2007;3(2 Suppl):S16-22. doi:10.1016/j.jalz.2007.01.001
15. Afshin A, et al. *Am J Clin Nutr.* 2014 Jul;100(1):278-88
16. Fleischer, D.M., Conover-Walker, M.K., Matsui, E.C. and Wood, R.A. The natural history of tree nut allergy. *Journal of Allergy and Clinical Immunology.* 2005 Nov;116(5):1087-93
17. Allen KJ, Hill DJ, Heine RG. Food allergy in childhood. *Med J Aust.* 2006;185:394-400.
18. Jacka FN, et al. A randomised controlled trial of dietary improvement for adults with major depression (the 'SMILES' trial). *BMC Medicine.* 2017. 15(1): p.23. <https://www.nutsforlife.com.au/resource/macadamias/>
20. Discover Macadamias consumer insights quantitative research conducted by independent research agency Kantar, December 2020
21. The 8 big emerging food trends revealed by global opinion leaders, white paper published by Australian Macadamias June 2023, based on research conducted by independent research agency FiftyFive5, 2022.
22. Jones J., et al. Macadamia nut effects on cardiometabolic risk factors: A randomised trial. *Journal of Nutritional Science.* 2023. 12, E55. doi:10.1017/jns.2023.39
23. <https://www.nutsforlife.com.au/resource/nuts-and-weight-management-report/>
24. Nishi, S.K., et al., Are fatty nuts a weighty concern? A systematic review and meta-analysis and dose-response meta-regression of prospective cohorts and randomized controlled trials. *Obesity Reviews.* 2021. 22(11): p. e13330.



# Nuts for Life: Driving Australian nut consumption

Nuts for Life is Australia's voice for the vital role nuts play in good health and nutrition.

On behalf of the nut industry, Nuts for Life works closely with health and food professionals, government, and other bodies to improve the nutritional reputation of nuts.

Nuts for Life is facilitated by the Australian Nut Industry Council in partnership with Australian nut industry members, from all sectors of the supply chain.

It is funded through Frontiers developed by Hort Innovation, with co-investment from the Australian nut industry, and contributions from the Australian Government.

Nuts for Life celebrated 20 years in 2023.

## 2024 Nuts for Life highlights

**Sustainability Hub launch:** The Sustainability Hub is available on the Nuts for Life website and also houses the new Sustainability Matters report. Both were shared with health professionals via a webinar presented by the co-convenor of Dietitians Australia's Food and Environment Interest Group.

**New culinary resources suite:** To encourage consumers to include nuts in their everyday cooking, a new suite of resources was launched including an e-recipe book, a culinary guide to nuts resource, fact sheets, graphics and videos, as well as recipe inspiration.

**Nuts and weight report:** An up-to-date summary of the research on nuts and body weight, this new report was shared with health professionals via a webinar 'Beyond kilojoules - New science about nuts and weight management.' Presented by Professor Alison Coates, it achieved more than 770 views.

**Health professional education:** Nuts for Life engaged with more than 7,700 health professionals via printed collateral, resource sharing and conference trade exhibits, including General Practice Continuing Education, Essential Health Summit, and AusFitness Trade Show and Summit.

**PhD project investigating the actual available energy of nuts:** The completion of this important research saw four published research papers generated, with another under review. The findings were shared with health professionals via conference presentations, direct education campaigns, webinars and e-newsletters. An assessment into how to implement the results of the research for the greatest impact is now underway.

For more information visit [nutsforlife.com.au](https://nutsforlife.com.au)





Section 3:  
**Consumer  
Insights**



# How macadamias meet today's consumer preferences

In today's world, consumers are placing more thought and care into their food choices, often seeking balance and specific health benefits. While many are not tied to rigid dietary plans, maintaining a healthy, well-rounded diet remains crucial, with growing interest in areas such as gut health, weight management, and overall wellness. Healthy snacking has become a focus, with consumers seeking options that provide functional benefits like energy boosts, muscle-supporting protein, or fibre to aid digestion—all while delivering great taste. Over 30% of consumers worldwide prioritise foods rich in healthy fats, making macadamias a standout choice. The demand to incorporate macadamias into a wider range of products is strong, with particular opportunities in ice cream, granola, brownies, nut butters, chocolate, protein bars, and even yoghurts.



Source: Focus Insights international trend and U&A research commissioned by the Australian macadamia industry, August 2024

**Nearly 60%**

of consumers say country of origin is important when deciding whether to buy macadamias. This is even higher in India and China at 79% and 90% respectively.





# Leveraging the future: How macadamias align with emerging food trends

The Australian macadamia industry conducted macro food and beverage trends research in conjunction with a panel of key opinion leaders from the international food industry. The research revealed 8 emerging macro trends that these experts say are shaping the world of food, with all of them offering up opportunities for macadamias to play a role.



## Multi-dimensional health

Health has been on consumers' radars for many years now, but the specifics of how it is driving their behaviour continue to evolve. This trend is predicted to see health reach new heights, as its meaning continues to manifest across markets and consumer knowledge keeps expanding.

### MACADAMIA OPPORTUNITY:

Australian macadamias offer a host of powerful functional health benefits that can support both inner and outer health.



## Rediscovering local

The pandemic and its supply chain issues forced us all to look inwards and rediscover what's in our own backyard. Consumers have amassed a new appreciation of what's available to them locally and this is being amplified by mainstream and social media.

### MACADAMIA OPPORTUNITY:

Australian macadamias have a powerful origin story which can be leveraged on its own or by pairing with other native ingredients.



# 03

## Conscious consumption

Consumers are showing a growing level of care and consideration for what they're eating and where it has come from. Amid a craving for transparency, provenance is being flagged on menus and on pack.

### MACADAMIA OPPORTUNITY:

The story of how Australian macadamias are grown and (minimally) processed holds appeal for consumers.



# 04

## Home economics

With living costs surging, consumers are returning to their kitchens to create their own delicious and nourishing food.

### MACADAMIA OPPORTUNITY:

Sharing simple but interesting ways to use Australian grown macadamias helps empower consumers in their own kitchens.



# 05

## Sustainable solutions

Focus on the climate crisis is intensifying and people are considering their individual impact more than ever and striving to eat more sustainably.

### MACADAMIA OPPORTUNITY:

Australian grown macadamias are a versatile plant-based ingredient produced by an industry with a deep commitment to sustainable production and waste minimisation.



# 06

## The internet of food

Technology has dramatically changed the way consumers see and access food, opening up unlimited, border-agnostic possibilities and creating a legion of new food influencers.

### MACADAMIA OPPORTUNITY:

Influencer marketing has proven to be a powerful marketing tool in key and emerging markets, helping to amplify the benefits of macadamias and showing how they can be part of fast-moving food trends.



# 07

## Future-proofed foods

Increasing macro-pressures, especially economic, are impacting food availability, and forcing consumers to re-think how they access and use the foods available to them. There's an emphasis on ingredients which can be used in multiple ways to make many different things, and ensuring you always have options.

### MACADAMIA OPPORTUNITY:

Macadamias are a great example of an adaptive ingredient that can enhance a broad range of recipes and product formulations.



# 08

## Less is more

Complexity is being replaced by clarity as consumers re-evaluate what is most important and seek a less 'noisy' life, and cleaner, simpler food.

### MACADAMIA OPPORTUNITY:

The minimal processing and stringent food safety standards that Australian grown macadamias are subject to align with this emerging consumer need.



# Section 4: Marketing Highlights







**The Australian Macadamias marketing program continued to thrive in 2024, with a host of innovative and exciting initiatives executed against four strategic priorities: promoting a strong and unique brand, driving innovation among food and beverage manufacturers, inspiring consumers to eat more macadamias and developing India as the next high-growth market.**

The program continued to target trade and consumers in Australia, Japan, China, Taiwan and South Korea and 2024 also saw the start of a dedicated promotional program in India.

The strategy in each market is grounded in ongoing research and executed by teams on the ground with the required level of brand familiarisation and local knowledge to carry out high-impact, relevant activity that shows consumers how to incorporate Australian macadamias into everyday life, and manufacturers how macadamias can be embraced as an ingredient in sought-after food and beverage products.

Following are some of the highlights from each key market.



# Australia

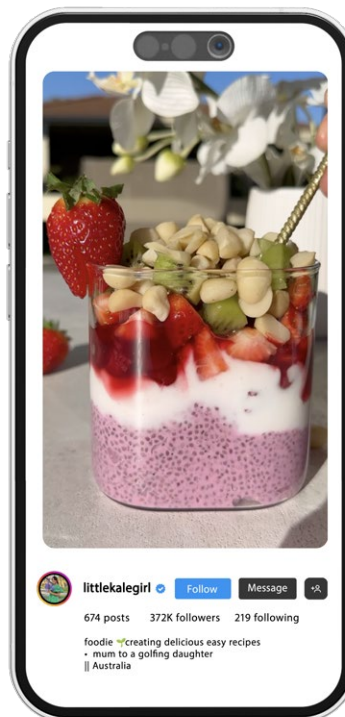
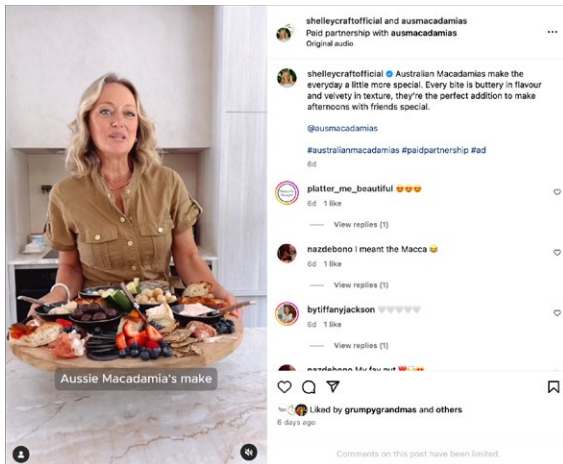
## Make everyday moments special with Australian Macadamias

The new domestic consumer campaign launched in October and built on the success of the recipe-based *Macadamias make it special* campaign in 2023. Designed to encourage consumers to reconsider macadamias when they next go shopping, the activity demonstrated how macadamias make everyday moments in life a little more special. The campaign included advertising across multiple channels including retail outdoor, print and digital advertising and editorial, social media, influencer content and gold sponsorship of the *Australian Women's Weekly* Christmas TV special and magazine. It was also supported by partnerships with 3 Australian influencers Shelley Craft, Jules Sebastian and Chef Tom Walton who helped amplify the macadamia message to a wider audience.



Makes keeping them  
all for yourself special

AUSTRALIAN MACADAMIAS



## Viral Instagram content

In Australia, we have established relationships with many food, health and lifestyle influencers to help amplify key macadamia messaging in the domestic market. A partnership with Instagrammer @littlekalegirl was particularly successful in 2024, with the inspiring macadamia recipe content resonating strongly with consumers. Her mesmerising recipe video for macadamia chia pudding went viral, achieving more than 5.7 million views, with the vivid colours and layers of flavour proving to be a hit with her audience and ours. This was followed by her smoothie bowl recipe featuring macadamias, which was viewed more than 1.2 million times.





# South Korea

## Kokorokara collaboration

Kokorokara is a dessert shop in Seoul regarded as one of the country's best pudding stores. Kokorokara specializes in bread pudding, using cream and biscuits to create dense, cake-like puddings which are particularly popular among younger Korean consumers. In collaboration with the team at Kokorokara, an Australian Macadamia pudding and tea cake were created as a limited-edition offer. To elevate the experience, customers were invited to crack open their own macadamia using a custom-designed nutcracker, which created theatre and attention in store. 35 influencers were also invited to visit and experience the macadamia pudding and tea cake while cracking their own macadamias, and an online competition rounded out the promotion with 15 winners awarded Australian macadamias, macadamia pudding, and tea cakes. South Korean consumers, influencers and media posted extensively about the collaboration online and the macadamia products proved so popular, the activity was extended for a further 2 weeks.







# South Korea

## Local South Korean recipe creation

Creating local content is an important element of the marketing program in key export markets. In South Korea, where trends are abundant and fast-moving, new recipes and usage tips are regularly developed and photographed to create relevant content. Recent creations included Macadamia Yak-gochujang, Macadamia Dubai Chocolate, Macadamia Braised Tofu and a macadamia grating tip. These local recipes often achieve the highest reach and comments on Australian Macadamias social media accounts in this market.





### Influencer macadamia experience tour

Eight Japanese and South Korean food, travel and lifestyle influencers visited the Northern Rivers for a four-day educational tour of the region, immersing them in the multi-layered Australian macadamia story. Bringing these highly skilled content creators onto Australian soil saw them generate and share macadamia content with their collective audience of more than 1.5 million, taking their followers along for the ride as they experienced Australian macadamia orchards, recipes, menus and products and met growers, product innovators and chefs. The content they shared generated nearly 7 million impressions across the two markets.



### Shoei trade show in Tokyo

Australian Macadamias exhibited at this important event attended by 3,800 representatives from Japan's food and beverage sector, with macadamia hummus and macadamia miso cookie samples provided to showcase the taste and texture that Australian macadamias can add to manufactured food products.



Generated nearly  
**7 million**  
impressions across  
two markets



## Australian Macadamia Festival

In 2024 the 2nd Australian Macadamia Festival took place in Delhi. Supported by the Australian Trade and Investment Commission (Austrade), the Festival spanned nine days and 11 venues, with the dynamic program bringing India's food and beverage trade, media and food influencers to experience the taste and versatility of Australian grown macadamias. Spectacular macadamia menus were created by the event's top-tier partner venues, with highlights including a baking demonstration workshop with renowned pastry chef Bani Nanda and a macadamia cocktail-making workshop at Sidecar India, one of India's top bars.



## Australian Macadamias trade meet

This exclusive gathering, tailored for industry stakeholders, purchase managers, executive chefs, and R&D heads from leading FMCG companies, explored the commercial potential of Australian macadamias in India's food industry. Keynote speaker Mahendra Barve, Vice President, Product Development for Chocolates and Confectionery, ITC Limited, shared insights on global trends and the diverse uses of Australian macadamias.

## THE LIL CHEF promotion

This month-long promotion was a collaboration with Reliance Retail's Freshpik stores in Mumbai and Bengaluru and Fresh Signature stores in Mumbai, Bengaluru and Pune. Created to drive awareness and trial of Australian macadamia nuts, the activity engaged popular 'mumfluencers' in India known for their healthy parenting and lifestyle content. The mums were invited to bring their children in store for a 'healthy playdate', where the kids created their own delicious lunchbox snacks using Australian grown macadamias. An expert chef was on hand to guide them safely through the cooking process, while educating them about macadamias.

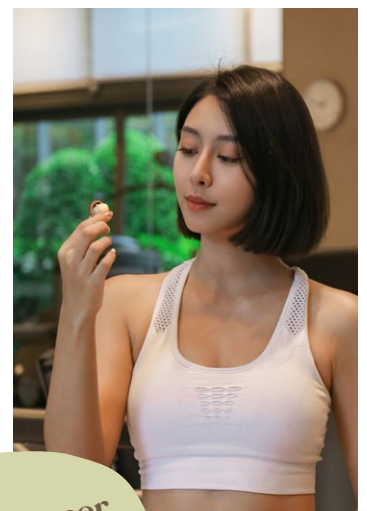


## Macadamia consumption moments video and influencer campaign

China's younger generation is drawn to creative videos that resonate with their emotions or offer practical tips for daily life. Leveraging this interest, a new video showcased the distinctive sound of an in-shell macadamia being cracked, paired with visuals of various consumption moments such as camping, fitness, travel, home, and office. Eight social media influencers supported the launch by demonstrating macadamias' versatility across these consumption scenarios, generating over 6.5 million impressions.



Video campaign



Influencer campaign



### Mid-Autumn Festival influencer collaboration

To celebrate September's Mid-Autumn Festival, seven influencers on Chinese social media platforms RED and Weibo showcased Australian macadamias as ideal gifts. Their content highlighted macadamias' crunchiness, delicious taste, and symbolic significance, with their round shape representing happiness, completeness, and harmony during the festival. Gifting Australian macadamias was presented as a thoughtful way to wish loved ones good health, and the activity generated over 7 million impressions.



Generated over  
**7 million**  
impressions

## Sharing the macadamia message with Instagram influencers

In 2024, influencer campaigns and a dedicated Taiwanese Instagram account expanded Australian Macadamias' reach in this market. By partnering with popular food and lifestyle influencers, consumers learned about the benefits of macadamias and how to incorporate them into their local cuisine. Regular giveaways offered consumers the chance to win macadamia prizes, while additional content featured vibrant characters and designs to tap into Taiwan's love of playful, colourful visuals.





**Keep up to date with our latest news by  
subscribing to our trade newsletter at:**  
[Trade.Australian-Macadamias.org/newsletter](https://Trade.Australian-Macadamias.org/newsletter)

**Connect with us on LinkedIn:**

 [LinkedIn.com/company/AustralianMacadamias](https://www.linkedin.com/company/AustralianMacadamias)

**For further information please contact:**

**Jacqui Price**

Australian Macadamias Market Development Manager

**T:** +61 424 107 731

**E:** [jacqui.price@macadamias.org](mailto:jacqui.price@macadamias.org)

© Copyright The Australian Macadamia Society

**Hort  
Innovation** **MACADAMIA  
FUND**

This project has been funded by Hort Innovation using the macadamia research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit [horticulture.com.au](https://horticulture.com.au)