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# Sustainability of the Australian Avocado Industry

Desktop Review

Hort Innovation

Suite 4, Level 3, 108 Power Street, Hawthorn Victoria 3122
rmcg.com.au — ABN 73 613 135 247 — RM Consulting Group Pty Ltd
Victoria — Tasmania — NSW

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# Table of Contents

## ACKNOWLEDGEMENT OF COUNTRY

We acknowledge the Traditional Owners of the Country that we work on throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present, and we acknowledge emerging leaders. Moreover, we express gratitude for the knowledge and insight that Traditional Owners and other Aboriginal and Torres Strait Islander people contribute to our shared work in Australia.

We pay respects to all Aboriginal and Torres Strait Islander communities. We recognise that Australia was founded on the genocide and dispossession of First Nations people and acknowledge that sovereignty was not ceded in this country. We embrace the spirit of reconciliation, working towards self-determination, equity of outcomes, and an equal voice for Australia's First People.

# 1 Sustainability in the Australian avocado industry

## INTRODUCTION

The competitiveness of the Australian horticulture industry is reliant on the generation of value to customers and society, through:

- Environmental stewardship
- Social licence, and
- Economic stability.

There is an opportunity for industry to demonstrate its leadership and commitment to sustainability through the development of relevant strategies that builds trust with customers whilst driving high-quality supply matching domestic and overseas consumer demand.

In response to this opportunity the Australian avocado industry seeks to support future resilience of the industry and communicate this to markets through the development of an industry sustainability strategy. The strategy aims to provide avocado growers and the industry with a clear overview of the:

- Current status of sustainability within avocado businesses and the industry more broadly, and potential opportunities to enhance this status.
- Future vulnerabilities and risks to sustainability within the avocado industry to support continuous improvement in sustainable production.

The strategy will serve as a guide for industry participants and equip them with a strategic communication tool to effectively promote the sustainability credentials of the Australian industry, with the view to supporting increased market access and product consumption. This project is funded by Hort Innovation using the avocado research and development levy, and contributions from the Australian Government (AV23016).

## THIS REPORT

A summary of a targeted desktop review of relevant industry documents to inform the development of the sustainability strategy is provided in this report including:

- Overview of the industry (Section 2)
- International and domestic drivers for sustainability (Section 3)
- Assessment of current avocado industry sustainability practices, indicators and gaps (Section 4)
- Challenges with adopting change (Section 5).

# 2 Australian avocado industry

## 2.1 ABOUT THE INDUSTRY

Australia is one of the world's top 20 avocado producers, and the third-largest consumer.[1] In 2023–24, approximately 690 businesses produced 150,913 tonnes of avocados in Australia, with a gross value of $649 million.[2]

**SNAPSHOT 2023/24 AVOCADO PRODUCTION AND VALUE**

150,913 tonnes
27.4 million 5.5kg trays
$649 million Gross value of production
$842 million domestic value
$96.1 million export value.

Australia's diverse climate allows avocados to be produced year-round, with production peaking from June to November. Queensland is the largest producing state, contributing just over 50% of the country's output, followed by Western Australia contributing 30-40% depending on biennial bearing cycles, and New South Wales producing around 16% of production volume.[3] Specific regional data is presented in Table 2-1.

**Table 2-1: Recent industry production data by region** (Avocados Australia, 2024)

| | North Queensland | Central Queensland | Sunshine Coast | South Queensland | Tamborine Northern Rivers | Central New South Wales | Tristate | Western Australia | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| 2022/23 production (tonnes) | 40,795 | 27,359 | 632 | 6,064 | 841 | 9,120 | 9,792 | 20,782 | 115,385 |
| 2023/24 production (tonnes) | 32,342 | 25,768 | 350 | 5,612 | 983 | 5,562 | 14,495 | 65,801 | 150,913 |
| 2023/24 % by region | 21% | 17% | 0% | 4% | 1% | 4% | 10% | 44% | |
| Past 2yr average % by region | 27% | 20% | 0% | 4% | 1% | 6% | 9% | 33% | |
| Est. number of business/ region | 90 | 53 | 3 | 8 | 3 | 141 | 100 | 182 | 687 |

[1] Australian Trade and Investment Commission (2023) URL: https://www.austrade.gov.au/en/news-and-analysis/news/avocados-australia-is-growing-exports-in-the-ripe-direction#:~:text=Taking%20Australian%20avocados%20to%20the%20world&text=In%202022–23%2C%20the%20global,consumer%20knowledge%20about%20the%20fruit.

[2] Avocados Australia (2024) “Facts at a Glance 2023/24 for the Australian avocado industry”

[3] Avocados Australia (2024) “Facts at a Glance 2023/24 for the Australian avocado industry”

## 2.2 INDUSTRY OUTLOOK

Over the past decade, the Australian avocado industry has experienced significant growth, with industry forecasting that domestic production will expand to around 170,000 tonnes per annum by 2026 (Figure 2-1). Existing domestic markets have limited capacity to grow and absorb the projected production growth, subsequently, future projected volumes will need to be met by export markets.[4]

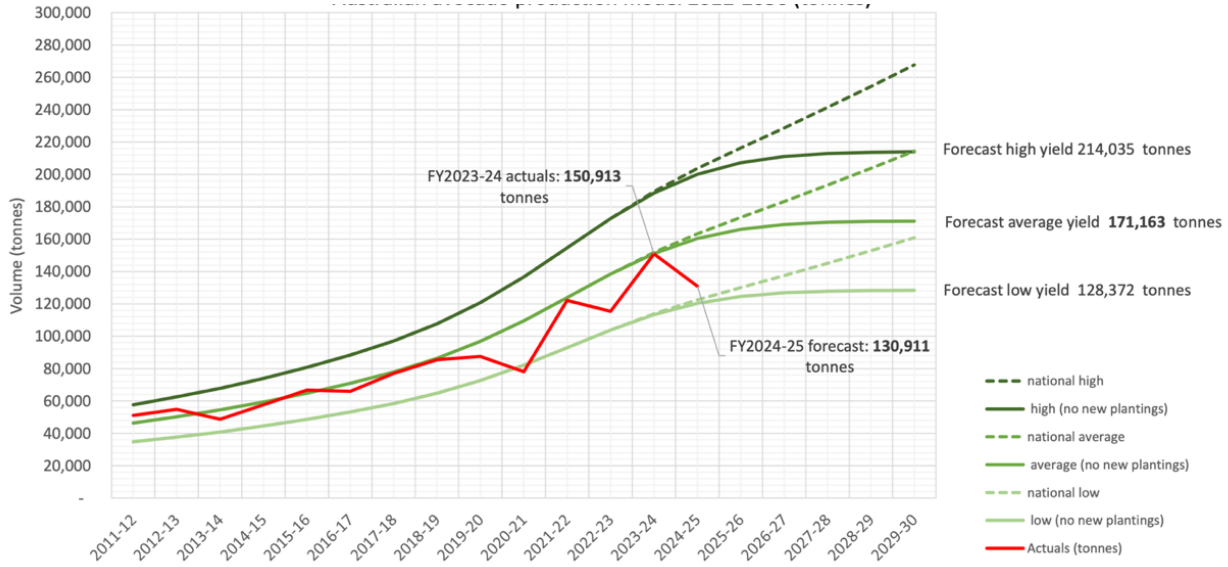


**Figure 2-1: Australian avocado production model 2012-2030 (tonnes)** (Avocados Australia, 2024)

Most avocados are produced for the domestic fresh market, valued at $842 million in 2023-24 with a minor component (approximately 5%) being processed. A small and growing export market exists valued at $96.1 million in 2023-24. Key current export countries are Hong Kong, Singapore and Malaysia (Figure 2-2).

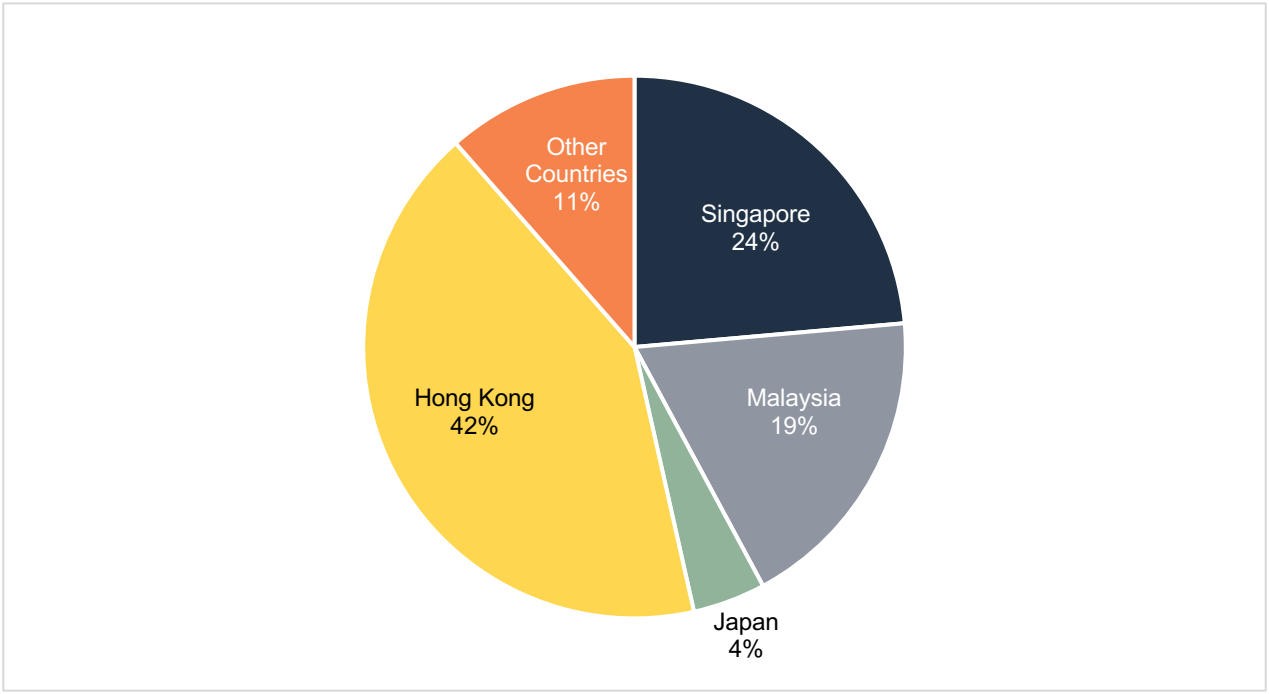


**Figure 2-2: Australian avocado export markets in 2023-24** (Avocados Australia, 2024)

[4] Avocados Australia (2022) "Australian Avocado Export Strategy 2022-2026 White Paper" URL: https://avocado.org.au/wp-content/uploads/2022/03/Australian-Avocado-Export-Strategy-White-Paper.pdf

## 2.3 VISION FOR SUSTAINABILITY

The goal for the Australian avocado industry, as per the Avocado Strategic Investment Plan[5] includes:

- Increasing domestic consumption to 150,000 tonnes and export volumes to 20,000 tonnes by 2026
- Achieving these targets at profitable farm gate prices, while maintaining productivity and sustainability.

In particular the Australian avocado industry aims to increase marketable yield per hectare through globally competitive production systems, such as orchard management, varieties, innovative R&D and sustainable best management practices (BMPs).

[5] https://www.horticulture.com.au/globalassets/hort-innovation/levy-fund-financial-and-management-documents/sip-2022-2026-pdfs/hort-innovation-sip-2022-26-avocado.pdf

# 3 Industry sustainability drivers

## 3.1 SUSTAINABILITY IN AGRICULTURE

The Food and Agriculture Organisation of the United Nations (FAO)[6] has a global vision for sustainable food and agriculture (SFA) as essential for meeting the needs of present and future generations, while ensuring profitability, environmental health, and social and economic equity. SFA contributes to all four pillars of food security, including availability, access, utilisation and stability, whilst addressing the three dimensions of sustainability: environmental, social and economic.

FAO promotes SFA to help countries worldwide achieve Zero Hunger and the Sustainable Development Goals (SDGs). However, food and agriculture production systems face unprecedented challenges, which include rising demand for food (from a growing population), hunger and malnutrition, adverse effects of climate change, overexploitation of natural resources, biodiversity loss, and food loss and waste. These challenges threaten the world's capacity to meet current and future food needs.

To help support their vision, FAO have identified five principles for sustainability in food and agriculture that should be used to guide decision-making and development of relevant policies and strategies. These include:

1. Increase productivity, employment and value addition in food systems
2. Protect and enhance natural resources
3. Improve livelihoods and foster inclusive economic growth
4. Enhance the resilience of people, communities and ecosystems
5. Adapt governance to new challenges.

Within an Australian context, sustainability in Australian agriculture is recognised as essential to ensure the long-term viability of the industry, protect natural resources, and meet global market demands. Producing food and fibre sustainably means practicing responsible stewardship of the environment, taking care of people and animals, and ensuring economic resilience for the community and industry.[7]

## 3.2 GLOBAL DRIVERS

At a global level, there are several key drivers that support a shift to sustainable agriculture practices, including:[8]

- Poverty, inequalities, hunger and malnutrition
- Inadequate diets and unsustainable consumption patterns
- Land scarcity, degradation and soil depletion
- Water scarcity and pollution
- Loss of living resources and biodiversity
- Climate change
- Stagnation in agricultural research.

In response to these drivers, UN Agencies have adopted a framework for advancing environmental and social sustainability. A number of specific programs or initiatives have also been adopted from the Rio+20

[6] Food and Agriculture Organisations of the United Nations (2025) "Sustainable Food and Agriculture", URL: https://www.fao.org/sustainability/en

[7] National Farmers Federation (2024) Australian Agriculture Sustainability Framework, URL: https://aasf.org.au

[8] Food and Agriculture Organisations of the United Nations (2014) "Building a common vision for sustainable food and agriculture; principles and approaches"

Conference, which called for enhancing food security, nutrition and more sustainable agriculture. These include:[9]

- Integration of the Sustainable Development Goals or SDGs in the UN's Post-2015 Development Agenda. SDG Number 2 has an explicit focus on sustainable agriculture, namely to "*End hunger, achieve food security and improved nutrition and promote sustainable agriculture*"
- A Zero Hunger Challenge that calls on implementation partners to support initiatives including:
  - Zero stunted children under the age of two
  - 100% access to adequate food all year round
  - All food systems are sustainable
  - 100% increase in smallholder productivity and income
  - Zero loss or waste of food.
- Land degradation neutrality which is focused on halting and reversing land degradation to meet future food needs, and recognition of the role of achieving a land-degradation-neutral world in the context of sustainable development
- Valuing indigenous farmer knowledge systems, in recognition of the many elements of traditional farmer knowledge that, enriched by current scientific knowledge, can support productive food systems
- Addressing modern slavery in agricultural systems. In extreme situations this includes forced labour, child labour, servitude and debt bondage. However, there is also context for offering workers fair wages, safe working conditions and adhering to ethical labour practices.

Major global importers of avocados exert significant influence over market trends and strategic priorities in avocado producing countries worldwide. The United States (US), countries within the European Union (EU) and the United Kingdom (UK) are among the world's top importers of avocados and share a strong strategic focus on improving sustainability, which is enacted through legislation, policy and industry organisation strategies and plans. While these top importers do not currently comprise significant markets for Australian avocados, their significant influence can serve to set global benchmarks for environmental and social standards that increasingly shape global certification schemes, consumer expectations and retailer procurement policies. Alignment with these markets can support Australia's competitiveness in current and future export markets.

The main export markets for Australian avocados (Hong Kong, Singapore and Malaysia) currently focus most strongly on food safety, quality and price, yet expectations around sustainability are growing. As the industry looks to expand its export markets, global drivers in the US, EU or UK may also become more relevant. A summary of key international agricultural sustainability drivers, and their potential relevance for Australia's avocado industry, is provided below in Table 3-1.

[9] United Nations (2022) "Food security and nutrition and sustainable agriculture" Sustainable Development Goals Knowledge Platform, URL: https://sustainabledevelopment.un.org/topics/foodagriculture

**Table 3-1: Key international sustainability drivers**

| DRIVER | DETAILS | RELEVANCE FOR AUSTRALIAN AVOCADO INDUSTRY |
|---|---|---|
| European Green Deal and Farm to Fork Strategy[10] | ▪ Focus on emissions, pesticides, biodiversity, waste, food security, health and traceability.<br>▪ The EU is pursuing a stronger alignment of these standards with imported products, for example, by restricting or banning imports of food produced with certain pesticides. | As the EU is not currently a major export market for the industry, the impact of these policies and regulations is low; however, trends in the EU are likely to affect broader global sustainability demands. |
| European Union Deforestation Regulation[11] | ▪ All commodities must be traceable to deforestation-free land areas before import in European markets. | As above. |
| Carbon border adjustment mechanisms (CBAM)[12] | ▪ The EU has introduced a carbon border adjustment mechanism to put a price on carbon emitted during production of imported goods, however it does not include agricultural products.<br>▪ New Zealand, the UK, Canada and the United States have carbon price arrangements that also do not include agriculture. | While impacts on Australian agricultural products from CBAM policies are unlikely in the medium-term, emissions-reduction commitments may increase pressure on countries to introduce trade policy responses. Countries that are further progressed in their emissions reduction trade responses are not generally major export markets for Australian avocados. |
| Global standards, such as the Global Reporting Initiative Agriculture, Aquaculture and Fishing Sector Standard | ▪ While voluntary for producers, demonstrating sustainability by aligning with recognised standards is becoming increasingly expected by buyers, investors, financiers and other stakeholders. | Overall, pressure to align with sustainability standards is likely to increase from export and domestic markets for most agricultural commodities; however, expectations may differ among export markets. |
| Globally recognised certification standards, such as GLOBALG.A.P.[13] | ▪ GLOBALG.A.P. is a voluntary farm-level certification and assurance scheme that sets standards for food safety, sustainability and workers' welfare.<br>▪ The widely recognised GLOBALG.A.P. certification can help exporters demonstrate compliance and enhance access to markets with import regulations around sustainability. | GLOBALG.A.P. certification can be important where exporters are seeking to access markets with stringent import regulations. This certification may become increasingly important as expectations around sustainability increase but is likely to differ among export markets. |
| United Nations Sustainable Development Goals (UN SDGs)[14] | ▪ The 17 SDGs set a global benchmark for sustainability that is increasingly viewed as the accepted language for measuring and reporting on sustainability at various scales. | The UN SDGs are widely adopted by government and industry groups, for example the Australian-grown Horticulture Sustainability Framework maps its goals against the SDGs. |

[10] European Commission (2020) Farm to Fork Strategy, URL: https://food.ec.europa.eu/document/download/472acca8-7f7b-4171-98b0-ed76720d68d3_en?filename=f2f_action-plan_2020_strategy-info_en.pdf

[11] European Commission (2023) "Regulation on Deforestation-free Products, URL: https://environment.ec.europa.eu/topics/forests/deforestation/regulation-deforestation-free-products_en

[12] AgriFutures (2023) "Carbon border adjustment mechanisms: Implications for Australian Agriculture, URL: https://agrifutures.com.au/wp-content/uploads/2023/11/23-176-CBAM-implications-for-Australia.pdf

[13] GLOBALG.A.P. (2025), URL: https://www.globalgap.org/about/

[14] KPMG (2020) United Nations Sustainable Development Goals: telling Australia's rural industries story, AgriFutures Australia, URL: https://agrifutures.com.au/wp-content/uploads/2020/07/20-055_single_page.pdf

| DRIVER | DETAILS | RELEVANCE FOR AUSTRALIAN AVOCADO INDUSTRY |
|---|---|---|
| | ▪ Key SDGs for agriculture include:<br>– 2. Zero hunger<br>– 12. Responsible consumption and production<br>– 13. Climate action<br>– 14. Life below water<br>– 15. Life on land. | The SDGs are increasingly relevant due to market access pressures, policy and regulatory alignment, industry innovation and consumer demands. |
| The Hass Avocado Board (HAB) and Avocado Sustainability Centre (ASC)[15,16] | ▪ The HAB is a leading industry body in the US – one of the world's top avocado importers.<br>▪ The HAB aims to strengthen the global Hass avocado industry by providing supply and market data, research, education and tools for collaboration, with the purpose of expanding demand for avocados in the United States. Sustainability is a key strategic priority for the HAB.<br>▪ The HAB established the ASC under its 2021-2025 Strategic Plan. The goal of the ASC is to be the premier provider of research, data and information about sustainability for the global avocado industry. The ASC provides an online research library which aims to advance sustainable practices among all stakeholders across the supply chain.<br>▪ ASC research priority areas are:[17]<br>– Water use efficiency and productivity<br>– Production and transport carbon footprint<br>– Economic and social impact. | The HAB and ASC have a role in setting global benchmarks by generating research that may shape global avocado supply chains. The knowledge base built by the ASC may inform global certification standards and retailer expectations.<br>While Australia does not currently export significantly to the US, engaging with the work of the HAB and ASC can help the industry stay ahead of global trends, ensure alignment with emerging international standards, and support long-term market competitiveness and brand positioning in current and possible future export markets. |

## OTHER INTERNATIONAL SUSTAINABILITY INITIATIVES

Sustainability commitments feature prominently in industry strategies and promotional efforts in several major avocado producing countries. Mexico, Colombia and Brazil are major Central and South American producers and exporters of avocados and actively highlight their sustainability commitments and credentials.

In contrast, other major avocado exporters – such as the Dominican Republic, Peru, Indonesia, and Kenya – currently offer limited publicly available information regarding industry-wide sustainability strategies or progress.

The sustainability focus areas and initiatives of key avocado producing countries worldwide are detailed below in Table 3-2. Only those countries with industry wide initiatives are included.

[15] Hass Avocado Board (2025) Who We Are, URL: https://hassavocadoboard.com/inside-hab/

[16] Avocado Sustainability Centre (2025) Sustainably Grown, URL: https://sustainability.hassavocadoboard.com/sustainably-grown/

[17] Hass Avocado Board (2023) The Avocado Sustainability Commitment, URL: https://industry.nzavocado.co.nz/wp-content/uploads/2023/04/0905-John-McGuigan-v2.pdf

**Table 3-2: Sustainability initiatives in major avocado producing countries worldwide**

| REGION AND MAJOR PRODUCTION COUNTRIES | SUSTAINABILITY INITIATIVES AND FOCUS AREAS |
|---|---|
| Mexico | ▪ The Avocado Institute of Mexico launched its Path to Sustainability strategy in 2025.[18] The key focus areas are:<br>– Improving water management<br>– Protecting and restoring biodiversity<br>– Enhance carbon sequestration and achieve net-zero carbon footprint<br>– Protect and restore forests and achieve net-zero deforestation. |
| Colombia | ▪ Colombia promotes sustainability as a key part of its marketing strategy through CorpoHass, the peak Hass avocado industry body and the Colombia Avocado Board, which promotes Colombian avocados in the United States. Focus areas include social, environment and economic sustainability.[19]<br>▪ Colombia launched the Carbon Hass project in 2024, which seeks to mitigate greenhouse gas emissions and promote the UN SDGs among 28 producers.[20] |
| Brazil | ▪ Brazil promotes sustainability in its avocado production systems and supply chain through HassBrasil and the industry association Abacates do Brasil.[21,22] Focus areas include:<br>– Food security<br>– Best practice agriculture<br>– Environmental security<br>– Social security for workers. |

## GLOBAL THREATS

Globally, the avocado industry faces multiple sustainability-related threats which may pose significant challenges to the long-term viability, reputation and market access of producing countries. While the nature and intensity of these threats varies among countries, key global issues include:

- **Climate change:** Climate change may reduce the suitability of some growing regions and increase the frequency of extreme weather events. Higher temperatures are projected in virtually all avocado-producing regions worldwide, and can reduce flowering, fruit setting and pollinating activity which in turn impact productivity.[23] Precipitation patterns are expected to change across many avocado producing countries, with water deficit stress and excessive rainfall both impacting productivity and fruit quality.
- **Deforestation:** Avocado production has been identified as a driver of deforestation in some countries, as demand has led to the widespread establishment of large monocultural plantations. For example, expansion of avocado plantations in Mexico's major production regions very likely caused the deforestation of 40,000 acres in decade prior to 2023.[24]
- **Water stress:** Avocados are a water-intensive crop which is grown in regions that are experiencing increasing water scarcity,[25] and they are associated with significant water conflicts and stresses in

[18] Ambrosi, A (2025) The Path to Sustainability: Mexican Avocado Industry's Commitment, URL: https://avocadoinstitute.org/sustainability/the-path-to-sustainability
[19] CorpoHass (2025) Avocados from Colombia: Sustainability at heart, URL: https://www.corpohass.com/en/avocados-from-colombia/
[20] CorpoHass (2024) AvoNoticias Edition 058, URL: https://www.corpohass.com/content/uploads/2025/01/corpohass_avonoticias-52-2024_eng.pdf
[21] HassBrasil (2025) HassBrasil, URL: https://www.hassbrasil.com/english
[22] Abacates do Brasil (2025) Quem Somos, URL: https://abacatesdobrasil.org.br/sobre-a-abpa/
[23] FAO (2024) Resilience gaps and opportunities for the avocado industry, URL: https://openknowledge.fao.org/server/api/core/bitstreams/62bf7d32-6128-4192-b853-8c1b7a418288/content
[24] Climate Righst International (2023) Unholy Guacamole: Deforestation, water capture and violence behind Mexico's avocado exports to the US and other major markets, URL: https://cri.org/reports/unholy-guacamole/
[25] UNICEF (2023) Latin America and the Caribbean: 1 in 6 children exposed to severe water scarcity, URL: https://www.unicef.org/lac/en/press-releases/1-6-children-exposed-severe-water-scarcity#:%7E:text=NEW%20YORK%2C%20PANAMA%2013%20November,to%20a%20new%20UNICEF%20report.

some producing countries in Central and South America.[26] Variability in precipitation and slower replenishment of aquifers under climate change may further reduce water available for production and intensify water conflict.

- **Social issues:** The United Nations Food and Agriculture Organisation (FAO) reports that regulations on land use and their enforcement are weak in some avocado producing countries, leading to unregulated expansion of agriculture into the lands of Indigenous peoples.[23] Avocado production has also been linked to organised crime and human rights abuses in Mexico.[27]

## 3.3 DOMESTIC DRIVERS

Hort Innovation's Hort IQ Platform[28] identifies several key sustainability drivers in consumer purchasing of fresh produce. This information highlights a focus on environmental and sustainable values when consumers purchase fresh produce and includes:

- 69% of consumers are concerned about environmental issues including climate change
- 64% of consumers say environmental impact influences their day-to-day decisions and behaviour
- 55% of consumers consider sustainability when buying fruit and vegetables. This is conceptualised in terms of seasonality and reducing waste
- 78% of consumers believe environmentally friendly products should cost no more than other products
- 41% of consumers believe farmers need to do more to reduce their impact on climate change
- 59% are concerned about the amount of plastic that fruit and vegetables are packed in.

Major retailers are also playing a significant role in setting sustainability expectations for fresh produce, with Woolworths, Coles and Aldi supermarkets all integrating sustainability into their business strategies and supply chain requirements.

These major retailers have set goals and expectations encompassing human rights, energy, emissions, packaging and waste which show alignment with the UN SDGs. Assurance with certification programs such as those delivered by Freshcare are a common requirement for major retailers.

A summary of the sustainability focus areas of two major retailers is provided below in Table 3-3.

[26] Sommaruga, R & Eldridge, HM (2020) Avocado Production: Water footprint and socio-economic implications, URL: https://onlinelibrary.wiley.com/doi/10.1111/1746-692X.12289

[27] Sammon, A (2024) Inside Mexico's anti-avocado militias, URL: https://www.theguardian.com/news/article/2024/jun/11/inside-mexico-anti-avocado-militias#:%7E:text=Michoacán's%20avocado%20production%20went%20from.of%20water%20are%20drying%20up.

[28] Fiftyfive5 (2024) "Hort IQ Usage & Perceptions; Sustainability in Fresh Produce" webinar, 28 October 2024

**Table 3-3: Sustainability focus areas for two major fresh produce retailers.**

| RETAILER | FOCUS AREAS RELEVANT TO PRODUCERS |
|---|---|
| Woolworths[29] | ▪ Taking action on human rights and modern slavery risks<br>▪ Reducing scope 3 emissions by 19% by 2030<br>▪ Understanding impact and dependencies of fresh supply chains on nature and increasing supplier adoption of sustainable and regenerative practices<br>▪ Growing the proportion of sales of healthier products<br>▪ Collaborating with suppliers to reduce waste across the value chain |
| Coles[30] | ▪ Supplier engagement on emissions reduction targets<br>▪ Engaging with suppliers on food waste<br>▪ Engaging with suppliers to improve environmental outcomes<br>▪ Implementing measures to promote fair and safe working conditions throughout the value chain under the Coles Human Rights Strategy[31] |

National and state policy and regulatory requirements also exert strong influence in setting standards for sustainability in agriculture. Key policies, strategies and regulations guiding sustainability include:

- **Australia's Net Zero Plan**, which is currently under development, will include a sectoral emissions reduction plan for agriculture and land.[32]
- **National mandatory climate-related financial disclosures** have recently been introduced and apply to very large companies, requiring them to report on climate-related risks and management as well as their scope 1, 2 and 3 emissions.[33] The requirements will be phased in for medium to large businesses over time. Smaller producers may experience indirect impacts as retailers and financers may request information on farm-level emissions and climate risk management as part of their reporting. The thresholds for reporting, including reporting dates are:[34]
  - Group 1 (Large Entities): Entities meeting two of the following criteria – consolidated revenue of $500 million or more, consolidated gross assets of $1 billion or more, or 500 or more employees – must begin reporting from 1 July 2024.
  - Group 2 (Medium-sized Entities): Entities meeting two of the following criteria – consolidated revenue of $200 million or more, consolidated gross assets of $500 million or more, or 250 or more employees – will commence reporting from 1 July 2026.
  - Group 3 (Small Entities): Entities meeting two of the following thresholds – consolidated revenue of $50 million or more, consolidated gross assets of $25 million or more, or 100 or more employees – will be required to report from 1 July 2027.
- The **National Food Waste Strategy** (2017) adopts a circular economy approach with the aim of halving food waste by 2030.[35] It includes priorities that target food waste in production, processing, distribution, retail and consumption.

[29] Woolworths Group (2025) Sustainability Plan 2025, URL: https://www.woolworthsgroup.com.au/content/dam/wwg/investors/reports/2023/f23-full-year/195860_sustainability-plan-2025.pdf

[30] Coles Group (2024) 2024 Sustainability Report, URL: https://www.colesgroup.com.au/FormBuilder/_Resource/_module/ir5sKeTxxEOndzdh00hWJw/file/Human_Rights_Strategy.pdf https://www.colesgroup.com.au/FormBuilder/_Resource/_module/ir5sKeTxxEOndzdh00hWJw/file/Sustainability_Report.pdf

[31] Coles Group (2024) Huamn Rights Strategy 2024-2027, URL:

[32] Department of Climate Change, Energy, the Environment and Water (2025) Net Zero, URL: https://www.dcceew.gov.au/climate-change/emissions-reduction/net-zero

[33] Rabobank (2025) How Australia's climate-related financial disclosures could impact agriculture, URL: https://www.rabobank.com.au/media-releases/2025/how-australias-climate-related-financial-disclosures-could-impact-agriculture-industry-report

[34] Australian Treasury, 2024. Mandatory climate-related financial disclosures - Policy position statement, URL: https://treasury.gov.au/sites/default/files/2024-01/c2024-466491-policy-state.pdf

[35] Commonwealth of Australia (2017) National Food Waste Strategy: Halving Australia's food waste by 2030, URL: https://www.dcceew.gov.au/sites/default/files/documents/national-food-waste-strategy.pdf

- The **National Soil Strategy** (2021) sets out long-term soil management goals that encompass soil health, innovation and knowledge building.[36]
- The ***Environmental Protection and Biodiversity Conservation Act 1999*** and regulations are Australia's main national environmental legislation and apply to agricultural activities where they are likely to impact matters of national environmental significance, for example nationally threatened species.[37]
- The ***Work Health and Safety Act 2011*** sets out requirements for employers to provide a safe working environment (including physical and psychological safety) and the ***Fair Work Act 2009*** regulates worker entitlements. Together they govern workers' safety and rights at a national level.

### HORTICULTURE SUSTAINABILITY FRAMEWORK

In response to consumers showing an increasing interest in understanding more about where their food and greenlife products come from and how they are produced, a sustainability framework has been established for the Australian horticulture industry.

The Australian-Grown Horticulture Sustainability Framework 2023/24[38] provides a logical process to review how Australian horticulture is tracking on key sustainability matters within horticulture's supply chain and their shareholders, markets and investors.

Use of the framework is determined by each individual industry, but as a sector wide framework, it can be used to:

- Measure and track the sustainability of their production systems
- Works 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
- Project and grower access to investment and finance
- Strengthen relationships and transparency with stakeholders.

The 2023/24 Australian-Grown Horticulture Sustainability Framework is a revised edition that comprises four fundamental pillars, each centring on distinct key themes, which include:

i. Nourish and Nurture
ii. People and Enterprise
iii. Planet and Resources
iv. Climate and Waste (Figure 3-1).

[36] Commonwealth of Australia (2021) National Soil Strategy, URL: https://www.agriculture.gov.au/sites/default/files/documents/national-soil-strategy.pdf
[37] Department of Climate Change, Energy, the Environment and Water (2025) Environment Protection and Biodiversity Conservation Act 1999, URL: https://www.dcceew.gov.au/environment/epbc
[38] Australian-Grown Horticulture Sustainability Framework (2023/24), URL: https://www.horticulture.com.au/contentassets/f629a21ab8514f16882f40764927d09f/2023-horticulture-sustainability-framework-003.pdf

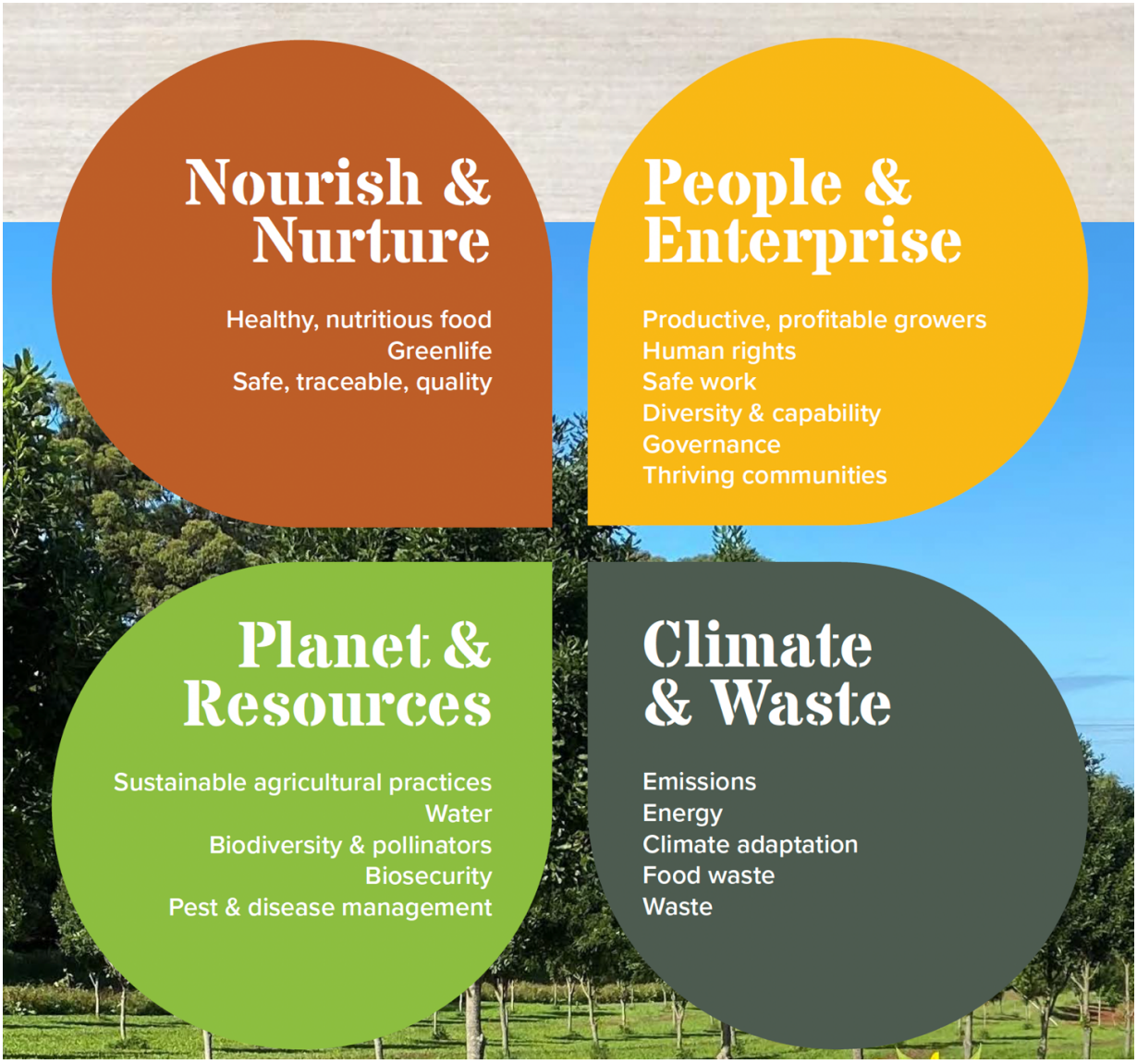


**Figure 3-1: Four key pillars of the Australian-Grown Horticulture Sustainability Framework**

The four pillars including their associated goals and indicators are further described in Appendix 1 (Tables A-1 to A-4).

### AUSTRALIAN AGRICULTURE SUSTAINABILITY FRAMEWORK

The Australian Agricultural Sustainability Framework (AASF) is a joint initiative led by the National Farmers' Federation and supported by the Australian Government. The AASF was developed in response to increasing pressures on the agricultural sector to demonstrate sustainability performance, both domestically and internationally. Global shifts towards environmental, social, and governance (ESG) standards, combined with increasing consumer awareness and regulatory expectations, has put pressure on Australian agriculture to demonstrate its sustainability performance.[39]

The AASF sets out a unified understanding of sustainability objectives through an overarching set of themes, principles and criteria. The framework is based on 17 principles across three themes encompassing:

- Environmental stewardship
- Wellbeing of people, animals and community

[39] National Farmers Federation (2024) Australian Agriculture Sustainability Framework, URL: https://aasf.org.au

- Bolstering economic resilience.

These overarching principles range from resource efficiency and biodiversity conservation to social responsibility and economic viability. They serve as the foundational values guiding the agricultural sector's sustainable transition, and reflect priorities identified through collaboration with key stakeholders, which included farmers, industry bodies, environmental groups, and government agencies. Each principle outlines broad, essential goals, setting a high-level vision for what sustainable agriculture should strive to achieve in Australia.

To operationalise these principles, the framework introduces 43 specific criteria that further detail the conditions necessary for sustainability. The criteria within the framework translate the high-level principles into clear, actionable areas that define sustainable practice across the agricultural sector, as illustrated in Figure 3-2. Each criterium represents a specific condition or requirement that must be met to align with the principles, providing structure and clarity for implementation.

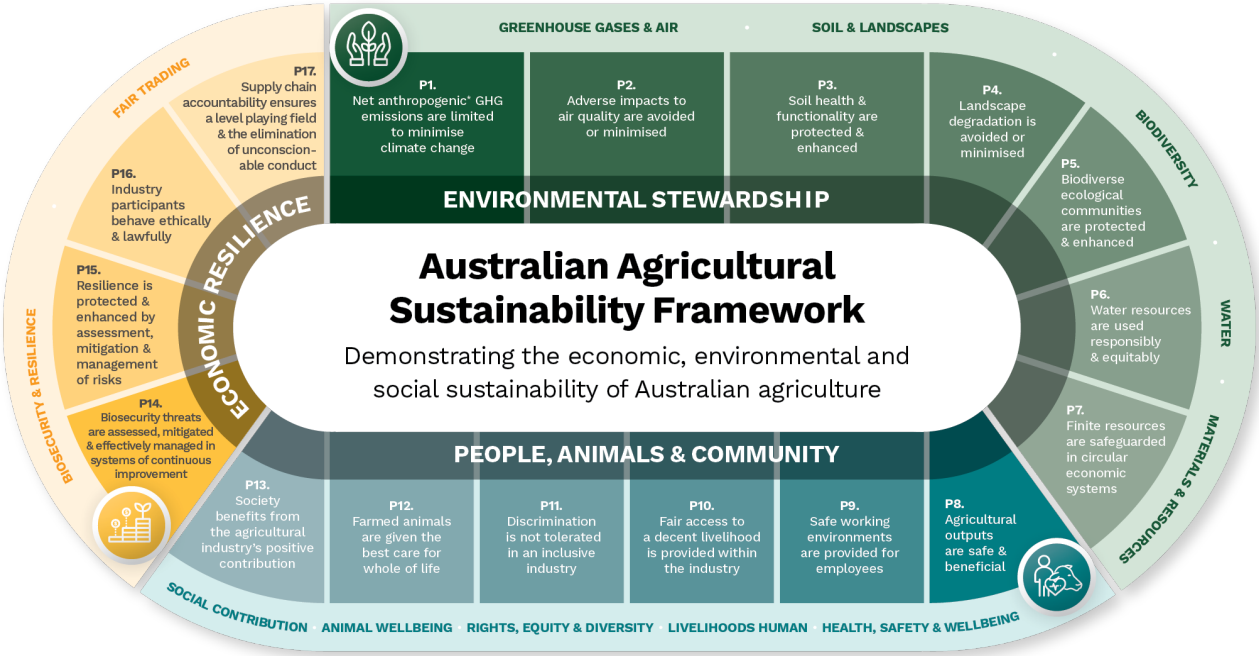


**Figure 3-2: Australian Agriculture Sustainability Framework**

## 3.4 SUSTAINABILITY PRACTICES AND APPROACHES

Beyond sustainability frameworks, several relevant practices and/or approaches may be considered within the context of what good sustainability can look like within the Australian avocado industry. These practices are outlined as follows.

### REGENERATIVE AGRICULTURE

Interest is growing in regenerative agriculture practices, rather than just sustainable. While sustainable agriculture is focussed on maintaining farming and its system without negative impacts and building resilience, regenerative seeks to repair and restore what has been damaged.

Regenerative agriculture is a form of farming in which explicit attention is paid to the state and trajectory of the natural capital base (soil, water, biodiversity) underlying farm production and acknowledgement that there are non-farm stakeholders interested in its responsible management. It is not a prescriptive recipe of farm practices

but rather has a focus on positive outcomes for the natural resource base, particularly soil health, and farm productivity and profitability.[40]

Key principles of regenerative agriculture as relevant to a perennial horticulture production system include:

- Understanding the context of the production system
- Minimise soil disturbance
- Maintain ground cover
- Crop diversity
- Precision application of biological and chemical inputs
- Integration of livestock (where possible).

## NATURE POSITIVE/AGROECOLOGICAL FARMING SYSTEMS

Farming with biodiversity or nature positive farming systems is a focus on food production systems that support agroecological outcomes. Agroecological approaches provide a pathway to protect nature, manage agriculture in ways that enhance the richness of biodiversity and restore the ecosystem functions of degraded systems, by applying a holistic and interconnected set of ecological and social concepts to the design and management of food and agricultural systems.[41]

The ten elements of agroecology can be applied at the farm, landscape and food system level, to realise nature-positive production at scale, which include:[42]

1. **Diversity**: diversification is key to food system transitions to ensure food security and nutrition while conserving, protecting and enhancing natural resources
2. **Co-creation and sharing of knowledge**: innovations in food production (in land and water) respond better to local challenges when they are co-created and contextualised through participatory processes
3. **Synergies**: building synergies enhances key functions across food systems, supporting production and multiple ecosystem services
4. **Efficiency**: innovative practices that rely on regenerative food production systems or agroecology produce more using fewer external resources
5. **Recycling**: more recycling means agricultural and fisheries production with lower economic and environmental costs
6. **Resilience**: enhanced resilience of people, communities and ecosystems is key to sustainable fisheries, food and agricultural systems. Resilience is the capacity of socio-ecological systems to maintain key aspects of their biological, social and functional identity, in a context of constant internal and external change
7. **Human and social values**: protecting and improving rural and coastal livelihoods, equity and social well-being is essential for sustainable food systems
8. **Culture and food traditions**: it is necessary to support healthy, diversified and culturally appropriate diets, thus contributing to food security and nutrition while maintaining the health of ecosystems
9. **Responsible governance**: sustainable food production requires responsible and effective governance mechanisms at different scales – from local to national to global
10. **Circular and solidarity economy**: circular and solidarity economies that reconnect producers and consumers provide innovative solutions for living within our planetary boundaries while ensuring the social foundation for inclusive and sustainable development.

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[40] CSIRO Agriculture and Food (2022) “What can science offer the proponents of regenerative agriculture practices?”, Australian Farm Institute, Occasional Paper, No. 22.01, May 2022

[41] WWF (2021) “Farming with Biodiversity. Towards nature-positive production at scale” URL: https://wwfint.awsassets.panda.org/downloads/farming_with_biodiversity_towards_nature_positive_production_at_scale.pdf

[42] FAO (2018) “The 10 elements of Agroecology; guiding the transition to sustainable food and agricultural systems”

## REEF WATER QUALITY PROTECTION

For avocado producers in Far North Queensland and Central Queensland, specific consideration needs to be applied to offset impacts of land-based production on receiving waterways of the Great Barrier Reef catchment area. Significant investment has gone into improving land condition and reducing water pollution flowing into Reef catchments.[43] Parallel lessons for management of offsite impacts may be applicable to other key production areas. Specific requirements under the Reef Protection Guidelines apply to horticulture producers. Horticulture producers in the relevant Great Barrier Reef regions (Wet Tropics, Burnett Mary) need to obtain an environmental authority (permit) before starting or expanding commercial horticulture activities.[44]

Specific relevant practices within the Horticulture Water Quality Risk Framework to manage water quality risk, and their respective weighting, are outlined as follows:[45]

**Table 3-4: Relevant practices for protection of water reef water quality**

| | |
|---|---|
| **Soil management**<br>▪ Controlling runoff using buffers (5%)<br>▪ Fallow management (35%)<br>▪ In-field erosion control (20%)<br>▪ Inter-row management (25%)<br>▪ Roadway and headland maintenance (10%)<br>▪ Sediment traps (5%). | **Pesticide management**<br>▪ Calculating pest and crop chemical requirements (30%)<br>▪ Reducing chemical loss to runoff and drift (30%)<br>▪ Integrated Pest Management (IPM) (40%). |
| **Nutrient management**<br>▪ Soil testing (10%)<br>▪ Leaf testing (10%)<br>▪ Nutrient budgeting and recording (30%)<br>▪ Fertiliser application method (40%)<br>▪ Calculating fertiliser rates (10%). | **Water management**<br>▪ Irrigation scheduling (30%)<br>▪ Matching irrigation interval and volume to crop requirements and soil limitations (50%)<br>▪ Water reuse (20%). |

## FORCED LABOUR/MODERN SLAVERY

Forced labour is one of the worst forms of exploitation. Forced labour is the most prevalent form of modern slavery (which also includes other human rights abuses such as human trafficking and forced marriage). Forced labour can occur anywhere in the world and in any part of a supply chain, making it a critical issue for companies looking to manage risk, safeguard their business, and protect workers.[46]

In Australia, a new independent Anti-Slavery Commissioner was appointed in December 2024. The new Commissioner has a wide remit to help shape the implementation of future modern slavery reforms, including to Australia's Modern Slavery Act. The Global Slavery Index estimates that 41,000 people in Australia and almost 50 million people globally, currently live and work in situations of modern slavery.[47]

Findings from a report released by the Office of the NSW Anti-slavery Commissioner[48] identified disengaged and undocumented workers face heightened risks of modern slavery, particularly forced labour. There are thought to be several thousand workers at risk of modern slavery, including those working in the horticulture

[43] Queensland Government (2024) "Protecting the Great Barrier Reef" URL: https://www.desi.qld.gov.au/great-barrier-reef

[44] Queensland Government (2024) "Requirements for grains and horticulture growers" URL: https://www.qld.gov.au/environment/agriculture/sustainable-farming/reef/reef-regulations/grains-horticulture

[45] Reef Plan (2017) Horticulture Water Quality Risk Framework 2017-2022, URL: https://www.reefplan.qld.gov.au/__data/assets/pdf_file/0035/78866/horticulture-water-quality-risk-framework-2017-22.pdf

[46] Sedex (2024) Sedex introduction to forced labour, URL: https://www.sedex.com/blog/sedex-introduction-to-forced-labour/

[47] Human Rights Law Centre (2024) New Anti-Slavery Commissioner welcome, URL: https://www.hrlc.org.au/news/2024/11/11/anti-slavery-commissioner

[48] Office of the NSW Anti-slavery Commissioner (2024) "Be Our Guests: Addressing urgent modern slavery risks for temporary migrant workers in rural and regional New South Wales", URL: https://dcj.nsw.gov.au/documents/legal-and-justice/anti-slavery-commissioner/plans-and-discussion-papers/Be_Our_Guests_-_Addressing_urgent_modern_slavery_risks_for_temporary_migrant_workers_in_rural_and_regional_New_South_Wales.pdf

sector. This includes workers in the categories of Pacific Australia Labour Mobility (PALM), working holiday makers (WHMs), international students, skilled temporary workers, graduates, those on regionally sponsored visas and undocumented workers.

### 3.4.1 DOMESTIC PRESSURES

The Australian avocado industry faces several sustainability-related threats that could impact its long-term viability, market competitiveness and social licence to operate. While these challenges are shaped by Australia's unique environmental and regulatory context, they align with many global issues and require proactive management.

Key domestic threats identified include:

- **Climate change**: Shifting climate patterns are expected to alter the suitability of avocado-growing regions in Australia. Increased temperatures, heatwaves, and changes to rainfall distribution may impact flowering, fruit set and pollinator activity, with flow-on effects for yield and fruit quality. Extreme weather events, such as floods and cyclones, pose additional risks to orchards and supply chains.
- **Water availability and competition**: As a water-intensive crop, avocados are exposed to increasing pressures on water resources, particularly in regions already facing water scarcity or competition from other agricultural and urban users.
- **Pest and disease pressures**: The risk of biosecurity incursions and the spread of endemic pests and diseases is heightened by climate variability and global trade. Managing threats such as *Phytophthora cinnamomi* and preparing for exotic pest risks is critical for the industry.
- **Social licence and labour practices**: Public expectations around ethical labour standards and environmental stewardship are rising. Reports of worker exploitation in parts of Australian horticulture have heightened scrutiny of employment practices. To maintain trust, industry must demonstrate strong compliance with workplace laws, and engage with community concerns about environmental impacts.
- **Land use pressures**: Expansion of avocado orchards in some regions raises concerns about potential impacts on biodiversity, native vegetation, and soil health. While large-scale deforestation is not a feature of Australian production, clearing of remnant vegetation or poor land management practices may come under closer regulatory and public scrutiny.

# 4 Sustainability in the avocado industry

This section considers relevant sustainability practices within the Australian avocado industry. The review has been undertaken as aligned to the Australian-Grown Horticulture Sustainability Framework (AHSF), and considers:

- Current industry practice
- Indicators for measuring performance; and
- Explore any key gaps on sustainability priorities as pertinent to the Australian avocado industry for consideration beyond the AHSF.

## 4.1 NOURISH AND NURTURE

### CURRENT PRACTICES

The AHSF's Nourish and Nurture theme focuses on 'feeding and greening our world'[49]. The goals and strategies under this theme aim to increase and promote the production of healthy, nutritious food. They also emphasise safety, traceability and quality of Australian-grown horticultural products.

### SIP PRIORITIES

Action on this theme within the avocado industry is evident in the Avocado Strategic Investment Plan (SIP) 2022-2026[50]. The SIP guides the investment of avocado industry levies and Australian Government contributions, ensuring investment progresses industry priorities. The SIP outcome of demand creation has a strong focus on expanding markets by improving demand for fresh, quality avocados. Investment is targeted towards improving knowledge, attitudes and purchase intent of consumers, while raising awareness of the health benefits of avocados. The strategies under this outcome demonstrate alignment with the AHSF goal of increasing consumption of Australian grown produce to support healthy and nourishing diets. Both the SIP and the AHSF focus on enhancing domestic and international consumer demand for Australian-grown avocados.

The avocado industry strengths, weaknesses, opportunities and threats (SWOT) analysis within the SIP also provides evidence of current practices and advantages that contribute towards the AHSF goals. Strengths listed in the SWOT include:

- Australian avocados regarded as high quality and 'safe' in domestic and overseas markets
- High production standards across the value chain
- About 91% of consumers satisfied with their experience of Australian avocados – overall high score
- Avocados are a rich source of healthy nutrients
- Avocados contain good fats.

### NUTRITION

The health benefits of avocados, as documented in *Avocado Nutrition and Health: Reviewing the Scientific Evidence*, are well-established, broad and compelling[51]. This evidence supports avocados in regard to the AHSF Nourish and Nurture theme as they can form part of a healthy, balanced diet and present a nourishing,

[49] Hort Innovation. (2024). 2023/24 Australian-grown Horticulture Sustainability Framework. https://www.horticulture.com.au/contentassets/f629a21ab8514f16882f40764927d09f/2023-horticulture-sustainability-framework-003.pdf

[50] Avocados Australia (2022). *Avocado Strategic Investment Plan 2022 – 2026*. Hort Innovation. https://www.horticulture.com.au/globalassets/hort-innovation/levy-fund-financial-and-management-documents/sip-aag-2022-2026-pdfs/hort-innovation-sip-aag-2022-26-avocado.pdf

[51] Australian Avocados (2022). *Avocado Nutrition and Health: Reviewing the Scientific Evidence.* Hort Innovation. https://www.australianavocados.com.au/wp-content/uploads/2022/07/Avo_Health_Report_2022_Online.pdf

plant-based substitute for spreads high in saturated fat such as butter. Increasing consumer demand for avocados can directly contribute toward improving consumer health and address issues of low fruit intake among Australians[51].

### INDICATORS

There are a range of indicators that the industry may use to measure progress in sustainability under this theme, some of which may already be collected. Data that is likely to be already collected and useful for demonstrating sustainability under this theme includes:

- Evidence demonstrating high nutritional value of avocados
- Sales data, as a proxy for consumption avocados per person, contributing towards recommended daily fruit intake
- Data on avocado product recalls
- Reported instances of avocados exceeding Maximum Residue Limits for regulated chemicals
- Certifications under internationally recognised food safety schemes
- Adoption of traceability systems to track movement of avocados.

The SIP specifies key performance indicators (KPIs) that are already used to track progress toward the SIP outcomes, some of which have overlap with the AHSF, including:

- Positive influence on consumer preference
- Use of nutritional information to support consumer demand.

Other indicators that the industry could use to monitor and demonstrate progress towards this goal include:

- Consumer ratings of satisfaction with avocados (health benefits, quality, traceability and safety)
- Participation of farmers and avocado handlers in food safety training and certification
- Farms and handling facilities with documented food safety stewardship plans.

### GAPS

Traceability of sustainability credentials is a component of the AHSF that the avocado industry could target to improve sustainability. While the existence of established industry traceability systems to gather production and food safety data is a strength, there remains a gap in understanding the effectiveness of these systems for product traceability around sustainability credentials. Furthermore, consumer, marketer and retailer satisfaction with these systems is unknown. Enhancing traceability of avocados from a consumer standpoint may support the competitiveness of Australian-grown avocados in comparison to imported avocados, and capitalise on growing ‘support local, buy Australian’ consumer sentiment. A suggested action could be to implement digital link-enabled QR code box labels for avocados that allow product tracking.

## 4.2 PEOPLE AND ENTERPRISE

### CURRENT PRACTICES

The AHSF People and Enterprise theme targets productivity, profitability, safe work, human rights, diversity and capability, governance and communities. There is a comprehensive range of goals under this theme, many of which overlap with industry priorities demonstrated in the SIP and Avocado Industry Extension Strategy.

## PRODUCTIVE, PROFITABLE GROWERS

### Benchmarking

Productivity and profitability data is included in the most recent Avocado Benchmarking National Report 2023, which provides a snapshot of industry performance[52]. Data for the report was collected from 29 growers across key growing regions in Queensland, the Tri-state area, northern New South Wales and Western Australia, representing 17% of Australian avocado production for 2023.

Findings from the 2023 season data found a substantial range in profitability, yield and labour efficiency among the most profitable 25% and least profitable 25% of farms in the sample. High yield per hectare was consistent among the most profitable farms, while the least profitable had lower yields. The most profitable farms also achieved greater tray output per full-time equivalent (FTE) employee than the least profitable, demonstrating better cost-effectiveness. Price per tray and cost of production were relatively similar among growers, showing that the higher yields translated into lower production costs per tray for the most profitable growers.

**Table 4-1: Summary of productivity and profitability data from the Avocado Benchmarking National Report 2023.**

| | MOST PROFITABLE | AVERAGE | LEAST PROFITABLE |
|---|---|---|---|
| Return on assets managed (ROAM) (%) | 9.3 | 2.9 | -3.4 |
| Earnings Before Interest and Tax (EBIT) ($/ha) | 22,941 | 6,899 | -7,177 |
| Total operating costs ($/ha) | 35,573 | 38,552 | 35,472 |
| Gross farm income ($/ha) | 58,514 | 45,452 | 28,295 |
| Yield per producing hectare (kg) | 14,612 | 10,862 | 6,778 |
| Total trays per producing hectare | 2,657 | 1,975 | 1,232 |
| Avocados per FTE (kg) | 104,471 | 71,130 | 44,345 |

Average avocado quality was relatively high with 75% of fruit being of premium grade. The least profitable farms had a higher percentage of processing and reject grade fruit (10% compared to an average of 4%) and the most profitable had a slightly higher percentage of first grade fruit (22% compared to an average of 17%).

The Avocado Benchmarking National Report 2023 compared productivity and profitability between the 2022 and 2023 growing seasons and found some notable differences, noting limitations with interpretation of the data as sample farms changed somewhat between years. On average, farm performance improved between 2022 and 2023, with substantial increases in return on assets managed (ROAM%) (0.2% to 2.9%) and earnings before interest and tax (EBIT) ($1,023 to $6,899). Yield varied considerably between the two years, with some regions experiencing declines in yield and others maintaining or improving their yield. Overall, 2023 saw better financial outcomes for most regions, however variability in the dataset demonstrated that regional conditions and management practices influenced overall business performance.

### SIP Priorities

The SIP drives investment toward improving productivity, profitability, extension and capability. The investment in research and innovation guided by the SIP is firmly aligned with the AHSF Goal P.3: World leading research, technology and innovation improves practices and drives transformational change'.

[52] RMCG (2024), *Avocado Benchmarking National Report – Production season ending 2023.* Hort Innovation.

Many of the strategies under SIP outcomes two ('industry supply, productivity and sustainability') and three ('extension and capability') have further links with the AHSF. For example:

- Evaluation of high-performing rootstock varieties and development of improved orchard management practices contribute toward increasing productivity and maximising the quality of produce, aligning with AHSF Goals P.1 and P.2
- Increasing yield consistency and quality, and reducing costs of production contribute towards improving profitability (AHSF Goal P.1)
- Applying a systems approach to improving the quality of Australian avocados throughout the supply chain will drive progress towards maximising quality and utilisation of all produce (AHSF Goal P.2)
- Fostering regional capacity and strengthening industry leadership through initiatives and training will contribute towards the AHSF capability goals.

**Extension strategy**

The Australian Avocado Industry Extension Strategy 2023-2027 identifies a range of practice change areas and strategies that contribute toward the AHSF goals under the People and Enterprise theme[53]. In particular, the Extension Strategy focuses on improving product quality through measures that encompass:

- Optimising on-farm and supply chain quality management by improving knowledge, adoption of monitoring tools, feedback processes and accountability
- Reducing quality issues in domestic retail supply chains through training, relationship building for collaboration, and consumer awareness raising
- Optimising export supply chain quality management through knowledge improvement and monitoring
- Improving fruit quality by increasing adoption of management practices that produce more robust fruit.

## HUMAN RIGHTS

A 2021 national study into wage theft and human rights abuses by the Migrant Workers Centre and Unions NSW found alarming rates of wage theft in the Australian horticultural industry as well as significant reports of workplace injuries, discrimination, harassment and exploitative practices[54]. Overall, 78% of the 1,300 survey respondents that participated in the study had been underpaid at some point during their work in the horticultural industry. Across all crops, including avocados, the average hourly rate paid to workers was below the legal minimum hourly rates for casuals. Data from workers in the avocado industry is included in Table 4-2.

**Table 4-2-1: Data specific to avocado industry workers in the wage theft and human rights in Australian horticulture report[54]. *N* = 11.**

| DATA | AVERAGE | MINIMUM | MAXIMUM |
|---|---|---|---|
| Work hours per day (hrs) | 9.4 | 6 | 11 |
| Average daily income under piece rate ($) | 155 | 60 | |
| Average daily income converted to hourly rate ($) | 17.45 | 6 | |

[53] Avocados Australia and Hort Innovation (2023), *Transition to 2027: Australian Avocado Industry Extension Strategy 2023-2027*. https://avocado.org.au/wp-content/uploads/2022/09/Transition-to-2027_Australian-Avocado-Industry-Extension-Strategy.pdf

[54] Migrant Workers Centre and Unions NSW (2021). *Working for $9 a day: Wage theft and human rights abuses on Australian farms.* https://unionsnsw.org.au/wp-content/uploads/2024/01/piece-rates-report.2-2.pdf

The report uncovered further human rights issues across horticultural industries. While not specific to the avocado industry, issues of high concern included:

- Almost half of respondents reported problems related to accommodation or transport, for example being forced to pay for low-quality accommodation
- Over one quarter reported employer breaches of work health and safety laws
- Over one third reported grievances related to discrimination and bullying.

The findings of the report suggest that wage theft and human rights issues should be better addressed across all horticultural industries. While the sample of avocado industry workers was low (11 workers), the average and minimum hourly wages reported are below legal minimum hourly rates for casuals.

Industry initiatives to support compliance in employment conditions on farm include programs such as the Fair Farms Initiative. Fair Farms is a training and certification program supporting fair and ethical employment practices on Australian farms. The program, designed and owned by industry, aims to help growers improve their compliance with workplace laws and demonstrate to consumers and communities that their practices are fair, ethical and responsible. The cornerstone of the program is the Fair Farms Standard which sets out requirements related to labour standards, WHS standards, safe accommodation and general good business practice. The Standard aligns with national and international laws and standards. Involvement in the program is voluntary and open to all horticulture businesses in Australia however, data on the number of avocado industry members is not publicly available.

### SAFE WORK

Under the model Work Health and Safety Act, businesses have a duty to ensure, so far as is reasonably practicable, the health and safety of workers at work. They must maintain equipment, identify hazards, assess risks and implement control measures to mitigate risks. Workers must be provided with adequate training and business must consult with workers on matters affecting WHS. There are significant penalties for breaches of these laws.

Avocados Australia and the Australian Centre for Agricultural Health and Safety have prepared a range of resources to promote best practice WHS for avocado growers and others in the industry. These resources include:

- A safety induction information sheet for avocado farm workers[55]
- A guide for growers and packers in the industry which aims to provide practical safety information and resources to manage WHS on farms and in packing sheds[56].
- Managing Health and Safety in the Avocado Industry risk assessment package – a practical management tool for implementing WHS in the workplace.

### DIVERSITY AND CAPABILITY

Building capability to enable adoption of best practices across the supply chain is a key outcome under the avocado industry SIP. The SIP recognises that the success of the industry depends largely on the capability of its people. There are three strategies in the SIP that contribute towards building industry capability:

- Deliver tailored extension and communication services to support positive change in the areas of export development and capability, domestic demand creation and BMPs in quality throughout the supply chain, biosecurity, sustainable orchard systems and integrated pest and disease management (IPDM)

[55] Australian Centre for Agricultural Health and Safety (2014). *Safety induction information for avocado farm workers.*

[56] Temperley, J and Lower, T (2015). *Avocado Growing and Packing: A Practical Safety Guide.* Australian Centre for Agricultural Health and Safety. https://aghealth.sydney.edu.au/wp-content/uploads/2019/05/Avocado-Growing-and-Packing-Safety-Guide.pdf

- Provide the opportunity for engagement between industry, across tree crop producers and other stakeholders to innovate
- Foster regional capacity and strengthen industry leadership through initiatives and training.

The SIP directs investment into extension and communication to build capability, with a strong focus on sustainability. The Avocado Industry Extension Strategy further extends this focus on capability by clearly identifying practice change areas and planned actions to drive improvements in sustainable best practices.

Limited evidence of strategies or targets that address diversity was found in the desktop review.

## GOVERNANCE

Avocados Australia Limited (AAL) is the peak industry body for the Australian avocado industry. AAL delivers several programs that focus on strategic industry priorities, including supply chain performance, industry communication, export development, biosecurity and Australian produce labelling. AAL also works with Hort Innovation, the manager of R&D levy funds, to deliver the avocado levy-funded R&D program and ensure it meets industry needs. AAL and Hort Innovation work in partnership to ensure effective industry consultation and input into key industry documents such as the SIP and Extension Strategy.

## THRIVING COMMUNITIES

The AHSF defines one aspect of sustainability by the goal 'become an economic powerhouse for local communities and the Australian economy'. The avocado industry demonstrates this through its increasing gross value of production, which more than doubled from $313 million in the 2013/14 financial year to $649 million in 2023/24[57]. Production has increased significantly over the last decade, exceeding annual growth rates for other crops in the fruit sector. This supply increase has highlighted the need to increase exports to avoid oversupply of the domestic market. Exports are growing as a result of concerted effort to build market opportunities, demonstrated by the 106% growth in export volume in 2023/24 compared to the previous year. Almost 15% of total production in Australia was exported in 2023/24.

Data on the contribution of the avocado industry to regional economies is limited or not publicly accessible. Measuring the contribution of the avocado industry towards community wellbeing is challenging, however a range of evidence demonstrates that the industry makes a strong effort to engage the growing community and build capacity and capability, which holds potential for flow-on benefits to regional economies. Avocados Australia and other industry and government organisations lead a range of events which may help growers to form community networks[58]. Examples include:

- Avo Connections and Hort Connections annual conferences
- Regional Forums in avocado growing regions
- Grower workshops on a range of topics such as pest and disease management and IPM
- Member breakfasts held locally in growing regions
- Field days and site visits
- Information sessions – in person and online.

The industry also supports some public-facing resources and events beyond the immediate industry community, for example the Blackbutt Avocado Festival, and the Australian Avocados website with recipes and nutrition information on avocados.

[57] Avocados Australia (2024). *Facts at a Glance: 2023/24 for the Australian avocado industry*. https://avocado.org.au/wp-content/uploads/2024/10/2023-24_AAL-Facts-at-a-glance.pdf

[58] Avocados Australia (2025). *Past Events.* https://avocado.org.au/events/past-events/

## INDICATORS

Data that is commonly collected in benchmarking studies will be useful for the industry to measure progress toward the AHSF People and Enterprise goals. For example:

- Gross value of production
- Volume and costs of production
- Return on capital
- Change in farmgate price
- Labour productivity
- Value of exports
- Marketable yield as a % of harvested yield.

Avocado SIP KPIs that may be useful for demonstrating progress toward sustainability in this theme include:

- Availability of new knowledge on a range of topics for growers
- Technologies and approaches to improve cost efficiencies are identified and shared with growers
- Evidence of increased product quality management across avocado supply chains
- Evidence of increased share of industry (ha) with positive change in knowledge, attitude, skills and aspiration and practice in priority extension areas
- Increased capacity – active participation in the industry – of leadership participants.

Many of the indicators described in the AHSF under this theme could be applicable to the avocado industry in measuring progress toward sustainability. Some of these indicators may represent data already collected by the industry and others may be potential new data sources. Indicators include:

- % producers adopting improved practices and technologies
- Industry investment in research
- Industry capacity, skills, culture, collaborations and partnerships driving innovation
- Number of people employed in industry
- Compliance with fair work conditions
- Participation in programs that demonstrate commitment toward ethical work conditions, e.g., Fair Farms, SEDEX
- Injury claims per million hours worked
- Deaths in industry per year
- Evidence of WHS procedures reducing harm
- Staff retention rates
- Proportion of seasonal workers
- Diversity metrics in industry, leadership roles and training
- % of growers with a business plan
- Proportion of employment in local communities related to avocado production.

## GAPS

The industry prioritises productivity, profitability and product quality through RD&E investment, and data demonstrating change in these areas is robust. However, there are a range of goals under the People and Enterprise theme that the industry has not yet addressed to the same degree, providing opportunity for improvement.

**Human rights and safe work**

The Wage Theft and Human Rights Abuses on Australian Farms report uncovered concerning evidence of illegal and abusive practices across a wide range of horticultural crops, including avocados; however, the sample size for avocado workers was small and unlikely to be representative for the industry (n = 11). To consider sustainability from a human rights perspective, the avocado industry should conduct a similar targeted study covering wage theft and abusive practices to collect representative, industry-specific data, which can inform the creation of effective interventions as required. Wherever human rights issues are found, investment should be directed toward addressing and monitoring these issues. The industry could also encourage grower participation in the Fair Farms training and certification program.

Avocados Australia, Farmsafe Australia and the Australian Centre for Agricultural Health and Safety have produced a range of useful resources targeted at improving WHS in the horticultural industry and specifically addressing workers ad growers in the avocado industry. Further improvement toward sustainability in this area could be realised through surveys or research to investigate the use of these resources and their efficacy in improving on farm safety practices. The Australian Avocado Industry Extension Strategy 2023-2027 includes a practice change area for labour management; however it does not explicitly address improving knowledge, awareness and practice change related to WHS.

**Diversity**

Australia's population is becoming more culturally and linguistically diverse (CaLD) as immigration increases. Horticultural businesses employ a significant proportion of CaLD employees, including temporary residents, working holiday makers and Pacific Australia Labour Mobility (PALM) scheme workers; however, some industries lack concrete strategies or actions to support diversity. To provide an inclusive and safe working environment for CaLD people, and to embrace the significant skills and experience they bring, horticultural businesses need to enhance cultural awareness, provide training opportunities and ensure foundational conditions are met. Horticultural crops that have included diversity-supporting actions in their capability or people development strategies include mushrooms, potatoes, onions, vegetables and bananas. These industries recognise the value that CaLD employees bring to businesses as well as their support needs. To improve sustainability in this area, the avocado industry could work towards supporting and enhancing diversity, including in leadership roles.

**Thriving communities**

While the industry does well to communicate national data, more could be done to demonstrate its contribution to regional community wellbeing by making some information more accessible to the public. This aspect of sustainability could be better supported by communicating:

- Direct and indirect contributions to gross regional product
- Direct and indirect contributions to regional employment
- Extent of grower and employee involvement in community activities.

## 4.3 PLANET AND RESOURCES

The AHSF Planet and Resources theme recognises the intrinsic link between horticultural production and the natural environment. Sustainable best management practices are essential for reducing the potential for negative impacts from intensive production on soils, water quality, native vegetation and biodiversity. This theme encompasses goals for sustainable agricultural practices, water, biodiversity and pollinators, pest and disease management and biosecurity.

## SUSTAINABLE AGRICULTURAL PRACTICE

Hort Innovation's project AV10002 aimed to provide Australian avocado growers with up-to-date information and resources on best management practices, to assist with the production of high yields of good quality avocados using sustainable methods[59]. A diverse range of outputs targeted at growers were produced throughout the project, including:

- The Avocado Problem Solver Field Guide – a guide on identifying, managing and preventing almost 100 pests, diseases and disorders
- The online Best Practice Resource, which contains extensive articles that cover almost every aspect of growing avocados with practical and easily understood information
- The Qualicado self-assessment questionnaire that scores growers in nine areas of orchard management
- Posters, study results, instructional videos, regional growth cycles resources and records of presentations.

The results of the project evaluation survey suggested that while true benefits will take time to show, some growers were achieving benefits in value per year ranging between $1,000 and $300,000 from the information provided by the project. These gains were most pronounced in nutrition management, irrigation, yield and fruit quality.

## SOIL MANAGEMENT

An environmental stocktake of the avocado industry was completed in 2009, which assessed the level of understanding and implementation of environmentally responsible practices among growers at that time[60]. The information in the report is still useful, but it must be noted that it is now over 15 years old. Key findings from the report included:

- Avocados are generally grown on porous soils where run-off is not an issue. Where it is an issue, it was generally well-managed at the time of the report
- Most growers were testing and managing soil pH, with the exception of the Tri-state growing region. Most growers were testing for soil salinity and sodicity in regions where these issues are common
- Good drainage practices were generally undertaken in steep, erosion-prone areas
- Most growers were aiming to establish and maintain interrow cover in their orchards.

The Avocado Benchmarking National Report 2023 found that 92% of growers in the sample group conduct soil testing at least every two years, with almost half of all growers (46%) testing yearly[52]. Only 8% of growers indicated they do not conduct any soil analysis, and almost one quarter (23%) test twice a year or more. For crop husbandry practices, the report indicated that 34% of the sample group apply mulch at least once per year, and 27% apply it less often than once per year[52]. A further 27% only apply slashed interrow and pruning debris to the rootzone, and 13% do not undertake any of these practices.

## NUTRIENT MANAGEMENT

The 2009 environmental stocktake of the avocado industry found that almost all growers were using soil or leaf testing to inform nutrient decisions[60]. The report found that nutrient loss to the environment was being more closely monitored as an increasing issue and predicted that fertiliser programs based on good monitoring would become more important in the future.

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[59] Newett S (2015). *Avocado best management practices and internet based information delivery*. Hort Innovation.

[60] Connelly D (2009). *Australian avocados…green by nature? An environmental stocktake of the Australian avocado industry*. Horticulture Australia Limited, Avocados Australia and TQA Australia.

In 2023, over three quarters (77%) of avocado growers in the Avocado Benchmarking National Report sample reported conducting leaf tissue or leaf sap analysis to inform nutrition management at least once a year (54%) or more frequently (23%). Respondents who did not conduct any leaf or sap analysis made up 8% of the sample. Fertiliser application methods in order of preference were fertigation (92%), solid application (77%) and foliar application (62%), with many respondents using a combination of methods.

The Avocado Industry Extension Strategy also includes an action to 'leverage related industry strategies that improve industry knowledge of practices that reduce the amounts of inputs applied.'

## WATER MANAGEMENT

The Avocado Benchmarking National Report 2023 found that the majority (86%) of growers monitor soil moisture to inform irrigation management[52]. Active use of irrigation monitoring tools was also linked to improved profitability among the sample group. Total irrigated water use was an average of 7.8 ML/ha. The most profitable farms experienced a much higher water use efficiency (2,117 kg avocados per ML/ha) than the least profitable (1,200 kg avocados per ML/ha).

The 2009 environmental stocktake of the avocado industry found that testing irrigation water for salinity was not common in the Tri-state region, despite known irrigation water salinity issues. The report noted that access to salinity data from external sources was lacking at the time. The report found that most growers monitored soil moisture and that the use of more efficient micro sprinkler and drip irrigation systems was widespread.

Best practice irrigation management is a key practice change area in the Avocado Industry Extension Strategy. Extension activities focus on driving awareness of advances in irrigation that increase efficiency and increasing knowledge and skill in the use of plant and soil monitoring equipment.

A life cycle assessment (LCA) of Australian avocado production which includes water use and water scarcity impacts is currently underway in Hort Innovation project AV23015. This project will assess water use at both the individual farm level and the industry as a whole. The project aims to provide a better understanding of the nature, scale and significance of the industry's water footprint, and a pathway to reduce environmental impacts. It will also provide quantitative metrics for baseline and benchmark environmental credentials which will be useful for tracking mitigation efforts.

## BIODIVERSITY AND POLLINATORS

In 2009, the environmental stocktake of the avocado industry reported that generally, avocado growers were committed to protecting or improving biodiversity values on their properties[60]. Two-thirds of growers surveyed at the time had assessed their properties for significant flora and/or fauna. About half of properties had a significant area of native vegetation, however one quarter of properties had been completely cleared. Just under two-thirds of growers surveyed indicated that they managed and protected sensitive areas on their properties such as waterways, wetlands and native vegetation.

The Avocado SIP targets address pollination under Outcome Three: Industry supply, productivity and sustainability. Strategy five, 'enhance crop pollination and resilience through improved pollination security and understanding of avocado crop pollination requirements', aligns strongly with the AHSF goal of ensuring effective pollination for Australian horticultural crops.

Pollination is also a focus of extension in the avocado industry and is an identified practice change area in the Extension Strategy. The strategy aims to enhance the efficacy of pollination by improving grower understanding of how to maximise pollination events, reducing broad spectrum pyrethroid use and promoting pollinator diversity.

## PEST AND DISEASE MANAGEMENT AND BIOSECURITY

Growers in 2009 were found to be widely interested in Integrated Pest Management (IPM) in the environmental stocktake of the avocado industry report[60]. Endosulfan was used as a primary control method for Spotting Bug prior to the implementation of a national ban on the chemical in 2010 due to strong evidence that it causes adverse environmental effects that cannot be mitigated[61]. A search of pesticide permits for Spotting Bug in the Australian Pesticide and Veterinary Medicines Authority (APVMA) permit database indicates that avocado growers may currently use tetraniliprole, a chemical in Mode of Action group 28.

All respondents in the Avocado Benchmarking National Report 2023 actively manage invasive weeds, and the majority (67%) actively manage feral animals[52]. In terms of diseases, the majority of respondents undertake management for anthracnose at least once per year (85%) and almost half (46%) manage the disease more than 10 times per year. A total of 92% of respondents undertake phytophthora management at least once a year, and half undertake it more than twice a year.

The Biosecurity Plan for the Avocado Industry presents a framework to coordinate biosecurity activities and investment for the avocado industry and address biosecurity strengths and weaknesses[62]. Developed by Plant Health Australia, biosecurity experts and industry representatives, the Plan aims to help industry, government and stakeholders to better prepare for and respond to incursions of significant pests.

The Plan addresses this aim by:

- Identifying high priority exotic pests which pose significant threats to the industry to promote better preparedness, awareness, education, training, surveillance and mitigation
- Detailing significant established pests
- Guiding biosecurity implementation with strategies to direct activities over a five-year period. The strategies address capacity and capability; education and awareness; preparedness and response; surveillance; diagnostics established pests; RD&E; and legislative issues
- Providing a framework for assessing the potential economic, social and environmental impacts of exotic pests
- Providing guidance for risk mitigation, preparedness and response management.

Extension in the avocado industry priorities best practice pest and disease management. The Australian Avocado Industry Extension Strategy 2023-2027 contains two practice change areas that focus on pests and diseases[63]. The strategies aim to increase industry knowledge and skill in identification, effective management and IPM through extension activities such as providing resources, demonstration sites and facilitated planning sessions. A range of resources exist for growers to help guide best practice biosecurity management, for example, the Orchard Biosecurity Manual, which contains practical advice for growers on best practice and fact sheets on common pests and diseases[64].

The Avocado SIP includes a range of strategies to strengthen best practice pest and disease management, including:

- Develop and optimise fit for purpose pest and disease management strategies
- Prioritise the major crop protection gaps through a Strategic Agrochemical Review Process

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61 Department of the Environment, Water, Heritage and the Arts Canberra (2010). *Endosulfan: Review of new information since the 1998 and 2005 reviews.* Australian Pesticides and Veterinary Medicines Authority. https://www.apvma.gov.au/sites/default/files/endosulfan-phase-9-cancellation-report-vol1.pdf

62 Avocados Australia (2020). *Biosecurity Plan for the Avocado Industry*. Plant Health Australia. https://avocado.org.au/wp-content/uploads/2020/03/Avocado-Biosecurity-Plan-v3.0.pdf

63 RMCG (2024), *Avocado Benchmarking National Report – Production season ending 2023.* Hort Innovation.

64 Avocados Australia (2011). *Orchard Biosecurity Manual for the Avocado Industry.* Plant Health Australia. https://www.farmbiosecurity.com.au/wp-content/uploads/2019/03/Orchard-Biosecurity-Manual-for-the-Avocado-Industry.pdf

- Provide regulatory support and co-ordination for crop protection regulatory activities with the potential to impact plant protection product access, both in Australia and internationally
- Generate residue, efficacy and crop safety data to support applications to the APVMA to gain, maintain or broaden access to priority uses for label registrations and/or minor use permits for crop protection needs.

## INDICATORS

The 2023 Avocado Benchmarking National Report included a range of sustainable management questions that should be repeated in future benchmarking studies to gain data on long-term trends and changes. These indicators included:

- Total irrigated water usage (ML/ha)
- Irrigation water use efficiency (yield/ML)
- Nutrients applied to crop
- Use of soil moisture monitoring
- Use of soil testing
- Use of leaf tissue and/or sap analysis
- Fertiliser application methods
- Active management of feral animals and weeds
- Frequency of pest and disease treatments such as anthracnose and phytophthora
- Frequency of mulch application.

Further indicators that the industry could use to assess environmentally sustainable practices or practice change include:

- Use of erosion management strategies
- Use of strategies to minimise the contamination of run-off
- % of property retaining native vegetation
- % of businesses with land set aside for conservation or protection
- Involvement in activities to encourage biodiversity
- Strategies used to protect and attract pollinators
- Capability, understanding and adoption of IPM
- % of producers with a biosecurity management plan.

## GAPS

Environmentally sustainable practices are a strong priority for the avocado industry and are embedded in the SIP, Extension Strategy, Biosecurity Plan and benchmarking studies. Consistent and clear reference to sustainable practices demonstrates industry commitment to improvement. However, there are some gaps which the industry could address to better align agricultural practices and the collection of data with the AHSF Planet and Resources theme. These include:

- Increasing the adoption of recycled water and water reuse where possible, and measuring the prevalence of these practices
- Encouraging grower involvement in biodiversity protection and nature restoration programs or activities
- Enhancing grower understanding of responsible input use for the protection of pollinator species, in line with strong grower interest in IPM.

The avocado industry SWOT analysis included in the SIP highlights the limited evidence of industry environmental performance as a weakness. It also identifies that there is a risk of industry environmental practices, or public perceptions of these practices, coming under scrutiny and threatening industry performance. This emphasises a need for the industry to regularly collect environmental impact and management data, which can be used to track change and improvement over time. Data can be used to communicate the industry's sustainability achievements and can inform where to target interventions.

## 4.4 CLIMATE AND WASTE

The AHSF Climate and Waste theme addresses emissions, energy, climate adaptation and waste in the horticulture industry. While horticulture's greenhouse gas emissions account for just 1% of total agricultural emissions, there is pressure from consumers and financiers to reduce emissions at all stages of supply chains. The industry is also inherently vulnerable to climate change and natural disasters given its dependency on natural resources. Changes to rainfall patterns and temperature are expected to impact plant growth, pest and disease risk and product quality, necessitating widespread industry action.

### EMISSIONS

A life cycle assessment (LCA) was conducted for avocado production in Western Australia as part of the Western Australian state government's commitment to reducing industry emissions and addressing climate change[65]. The LCA found that the average greenhouse gas (GHG) emissions of an avocado orchard over the 15 years from establishment are 3.7 tonnes of carbon dioxide equivalent ($CO_2e$) per hectare per year[66]. This translates to a carbon intensity of 0.32 kg of $CO_2e$ per kg of avocados. At peak production, emissions per hectare reached 4.8 tonnes $CO_2e$/ha. The LCA found that the main drivers of production emissions in the industry were electricity used to power irrigation and the use of fertilisers.

In addition to production emissions, the WA LCA assessed industry emissions at the packaging stage, and found that emissions were 0.17 kg $CO_2e$/kg avocados. The main drivers of these emissions were the use of packaging materials, refrigerated transport and the use of water and fungicide for washing and preserving avocados.

To date, there is very little information available on emissions generated by the avocado industry at a national level and emissions are not addressed in industry guiding documents such as the SIP or Extension Strategy. The LCA of Australian avocado production currently underway in Hort Innovation project AV23015 includes greenhouse gas emissions and represents a clear path forward for quantifying the impact of industry emissions nationally. This project will assess emissions at both the individual farm level and the industry as a whole. Like the industry water footprint, the assessment aims to provide a better understanding of the nature, scale and significance of the industry's carbon emissions footprint, and a pathway to reduce environmental impacts.

### ENERGY

The 2009 environmental stocktake of the avocado industry found that only around half of growers considered energy efficiency when purchasing new equipment, and few growers at the time were using renewable energy. Due to dramatic changes in technology, infrastructure and energy markets since the release of this report, it is probable that behaviours around energy efficiency and the use of renewable sources have since changed. There is a lack of representative data to assess the possible changes, highlighting a need for updated research.

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[65] Department of Primary Industries and Regional Development Western Australia (2024). *WA Avocado Life Cycle Analysis (LCA)*. https://www.agric.wa.gov.au/AvocadoLCA#:~:text=The%20average%20green%20house%20gas,0.319%20Kg%20CO2e%2FKg%20Avocado.

[66] $CO_2e$ is a standardised unit used to measure and compare the impact of different GHGs. $CO_2e$ converts the potency of other GHGs such as nitrous oxide into the equivalent amount of CO2, making it possible to express the impact of various emissions as a single number.

## CLIMATE ADAPTATION

Climate change and variability in growing conditions has been identified as threats to the avocado industry in the SIP SWOT analysis. While there is a lack of explicit reference to measuring and improving the climate resilience of the industry in its documented goals and strategies, some of the environmental sustainability actions underway implicitly address some aspects of resilience. These include:

- **Water management**: efforts to measure the industry's water footprint through the ongoing LCA and enhance irrigation efficiency through RD&E can help to address changes in water availability
- **Soil conservation:** evidence suggests that a high proportion of growers practice good soil management such as mulching, cover cropping and erosion control; however, some of this data is dated
- **Pest and disease management:** industry pest and disease management is proactive and has a strong focus on effective extension
- **Diversification of avocado varieties:** industry efforts to identify and evaluate rootstock varieties to improve orchard productivity, disease resistance and fruit quality should also take climate resilience into account.

## FOOD WASTE

Organic waste is by far the biggest component of pre-farm gate waste produced in the horticulture industry[67]. A report on pre-farm gate waste commissioned by AgriFutures found that for the horticulture industry as a whole, 2.3 million tonnes of organic waste are produced annually. Product loss makes up over half of the amount of organic waste.

Food waste data specific to the avocado industry is scarce. The 2009 environmental stocktake of the industry found that 84% of survey respondents reported that they dispose of rejected produce in a manner that will not disturb neighbours or allow it to enter waterways, however this was the only metric in the report that investigated the management of organic waste by growers.

Efforts to increase and preserve the quality of avocados throughout both production and the supply chain should have carryover effects on reducing the amount of food waste produced in the industry. The avocado SIP contains the following strategies that may reduce food waste:

- Identify opportunities to increase the use of Australian avocados through alternative menu use in foodservice channels. Alternative uses of avocados may enhance opportunities for utilisation of lower grade, yet still valuable and nutritious fruit.
- Apply a systems research approach to improving the quality of Australian avocados throughout the supply chain. This strategy could lead to reduced waste throughout the supply chain and increase the proportion of avocados produced reaching the consumer.

The Avocado Industry Extension Strategy also contains a wide range of strategies to address fruit quality at farm, packer, retail and consumer stages. Extension activities are targeted towards improving knowledge and encouraging practice change that preserves fruit quality at all stages of the supply chain, which is likely to have carryover effects to reduce the amount of fruit wasted.

## WASTE

The AgriFutures pre-farm gate waste management report found that the horticulture industry produces 63,000 tonnes of plastic and 46,000 tonnes of workshop waste in addition to the organic waste described above. The

[67] Lucas D, Axio I, Wardley T, Boland A-M, Muller C & Larsen C (2022). *Pre-farm gate waste management: baseline data for the agriculture, fisheries and forestry sector*. AgriFutures Australia. https://agrifutures.com.au/wp-content/uploads/2023/05/23-006.pdf

largest contributors to plastic waste were containers, pots and labels; followed by protective film; nets and mesh; and piping, irrigation and drainage. Most of the workshop waste was made up of treated timber, followed by tyres, oils and batteries.

The 2009 environment stocktake of the avocado industry reported that nationally, 69% of growers separated materials for recycling at the time; however, this rate was 57% in the Tri state region. The study noted that there was a lack of recycling facilities in multiple avocado growing regions, and there was an opportunity to develop regional advice to raise awareness on recycling options for different materials. More recent data on the management of plastic and workshop waste in the avocado industry is lacking.

## INDICATORS

A range of indicators could be used to measure and track industry performance in the climate and waste theme, including:

- Carbon sequestered in avocado orchards
- Production emissions (e.g., fertiliser use, land use change)
- Transport emissions
- Emissions at packing stage
- Energy use per kg avocados produced
- % growers who implement energy efficiency practices
- % growers who use renewable energy and proportion of total energy use from renewable sources
- % growers with a climate risk assessment and management strategy
- % fruit meeting first grade quality standards
- Volume of potential food waste saved through secondary products
- Quantity of produce lost at each stage of production
- Prevalence of waste reduction and recycling behaviours in growers
- % of packaging that is recyclable, compostable or reusable
- % growers with a waste management plan
- Volume of waste to landfill per grower.

## GAPS

Recently, the avocado industry has moved to address a gap in emissions data with the LCA underway as part of Hort Innovation project AV23015; however, multiple gaps remain under this theme. Industry-specific data is scarce for several areas, including:

- Energy use at each stage of the supply chain and prevalence of renewable energy use
- Direct evidence and the communication of improvements in resilience to climate change and extreme weather variability, at both individual and industry scales
- Volumes of food, plastic and workshop waste and evidence of improved waste management.

# 5 Barriers to change

Whilst there is strong evidence of the avocado industry commitment to supporting sustainability initiatives, it is important to consider the challenges to adopting practice. Barriers such as financial constraints, regulatory complexities, technological limitations and resistance to change can impede action on changes in sustainability practices. Understanding these limitations or barriers to change is critical in developing effective strategies for overcoming them. This section explores the key challenges identified that hinder the adoption of sustainable practices within the industry.

## 5.1 FINANCIAL RISKS

Developing and delivering new approaches to sustainability requires initial investment in research, technology and often infrastructure, which can come at a significant cost and present a barrier to change. Similarly, implementing sustainability improvements at individual farm level can also involve high upfront costs, for example purchasing renewable energy infrastructure or upgrading irrigation systems. Despite these high costs, the benefits of improving sustainability can be tangible, and can include higher yields, improved resource use efficiency, improved resilience to climate variability and the cost savings or gains associated with these changes. Some of these financial challenges can be addressed with communication of cost-benefit, diligent data collection and monitoring of costs at farm level, and use of incentives to transition to sustainable practices.

## 5.2 SOCIAL RISKS

The avocado industry SWOT identifies that consumer perceptions around the environmental sustainability of the industry present a threat. To avoid scepticism and claims of greenwashing, the industry should ensure sustainability claims are backed up with robust industry monitoring data, well-communicated research findings and case studies which can demonstrate improvement.

Consumer scepticism may also extend to fair and safe work practices. There is a risk of poor public perception of the horticultural industry from a human rights perspective due to media reports of wage theft and exploitation, which is exacerbated by a lack of representative industry-specific data. The avocado industry could address this by conducting research into the prevalence of poor practices and ensuring any issues are appropriately addressed.

## 5.3 PERCEPTIONS ON SUSTAINABILITY

Variability may exist in relation to industries perception or view of what sustainability is, in comparison to societal views. There is an indication through the desktop review and early consultation with industry that sustainability for a grower is aligned more to financial sustainability to continue to invest in their production system. Comparatively, the focus for most consumer orientated market drivers has to do with sustainability of practices and the impact on the natural environment. Harmonisation of these approaches or clear consensus of definition and objectives of a sustainability strategy will be key to ensure alignment of expectation.

## 5.4 RISKS OF DELAYED ACTION

Industries and growers at the forefront of sustainability improvement may gain a competitive advantage through market preference or price premiums for their products. Delaying action on sustainability poses a risk to market access if new regulations are introduced and as consumer and financier demands change. This applies to both domestic and international markets, as there is a global movement toward more sustainable consumption. Reactive change in response to tightening regulations or worsening environmental impacts may also necessitate more rapid and expensive shifts in practices and systems, compared to proactive improvement that embraces new opportunities.

# 6 Summary

This report has considered the relevant documented information related to sustainability in the Australian avocado industry.

International and domestic drivers for sustainability are rapidly evolving, driven by a framework of environment, social and governance (ESG) measures. These measures are increasingly being pursued by the supply chain and consumers, and the demonstration of progress and commitment against these indicators is becoming the norm.

The Australian Horticulture Sustainability Framework has been used in this review as a framework to assess the current evidence of sustainability practices of the Australian avocado industry. The AHSF provides a sound reference point to assess the documented evidence of industry practices to established sustainability parameters. Key industry indicators currently being collected have also been identified.

Key sustainability gaps identified as part of the review for further exploration of relevant evidence of practice within the avocado industry include:

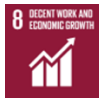
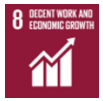
- Traceability systems for sustainability credentials
- Evidence of workers' rights including employment conditions and workplace safety
- Support for inclusion and diversity in workplaces
- Broader industry engagement with communities
- Documented data and evidence of practice change adoption including:
  - Water management practices
  - Biodiversity management
  - In-field practices such as Integrated Crop Protection
  - Greenhouse Gas Emissions
  - Industry waste profiles
- Industry resilience and preparedness for changing climate.

# Appendix 1: Australian-Grown Horticulture Sustainability Framework

**Table A1-1: Horticulture goals and indicators for Nourish and Nurture pillar**

| SUSTAINABLE DEVELOPMENT GOALS | HORTICULTURE GOAL | INDICATOR |
|---|---|---|
| **Healthy Nutritious food**   | N.1 Healthier, nourishing diets through increased consumption of readily available, affordable Australian grown fruits, vegetables and nuts | N.1.1. % Australian adults meeting the recommended daily intake of fruits<br>N.1.2. % Australian adults meeting the recommended daily intake of vegetables<br>N.1.3. % Australian adults meeting the recommended daily intake of nuts<br>N.1.4. Nutritional value of horticultural produce<br>N.1.5. Global Food Security Index – measure of affordability, availability, and quality adjusted for natural resources and resilience. |
| **Greenlife**   | N.2. Community health and wellbeing is improved by increased greenspace, plants and cut flowers in homes, cities and towns | N.2.1. Proportion of Australian urban environments that is greenspace<br>N.2.2. Measured benefits of plants in homes, cities and towns, including benefits to mental health<br>N.2.3. Consumer attitudes to the benefits of Greenlife. |
| **Safe, Traceable, Quality**   | N.3. Australian grown horticultural produce is trusted as safe and traceable | N.3.1. Number of sites certified to a Global Food Safety Initiative recognised scheme or equivalent<br>N.3.2. Number of product recalls due to food contamination per year<br>N.3.3. Assess effectiveness of product traceability systems and industry/consumers/ marketer & retailer satisfaction with these systems<br>N.3.4. % Consumers who value Australian horticultural produce as safe. |
| | N.4. Reliable quality, authentic, Australian grown horticultural produce is sought and valued by both international markets and Australian consumers | N.4.1. Consumer perceptions of quality and value of Australian grown produce<br>N.4.2. Industry led programs for quality standards<br>N.4.3. Recognition of and demand for Australia-grown produce in diverse markets. |

**Table A1-2: Horticulture goals and indicators for People and Enterprise pillar**

| SUSTAINABLE DEVELOPMENT GOALS | HORTICULTURE GOAL | INDICATOR |
|---|---|---|
| **Productive, profitable growers**  | P.1. Vibrant, productive, profitable enterprises | P.1.1. Land use productivity (Gross Value of Production /ha)<br>P.1.2. Volume of production<br>P.1.3. Costs of production<br>P.1.4. Labour productivity (Gross Value of Production/Full Time Equivalent)<br>P.1.5. Return on capital<br>P.1.6. Change in farmgate price. |
| | P.2. Maximise the quality and utilisation of all produce | P.2.1. Marketable yield (packout) as % of harvested yield |
| | P.3. World-leading research, technology and innovation improves practices and drives transformational change | P.3.1. % producers adopting improved management practices and technologies (or adoption of research outcomes)<br>P.3.2. Industry investment in research<br>P.3.3. Economic impact of R&D investment<br>P.3.4. Industry capacity, skills, culture, collaborations and partnerships driving innovation. |
| **Human rights**  | P.4. Provide ethical, fair and safe work. Creating a culture of pro- actively meeting employment and duty of care obligations and standards of sustainable, ethical employment that mitigate risks of modern slavery | P.4.1. Number of people employed in horticulture<br>P.4.2. Compliance with Australia's high standards of fair work conditions<br>P.4.3. Participation in activities demonstrating commitment to fair and ethical work conditions such as Fair Farms, SEDEX or training. |
| **Safe work**  | P.5. Zero harm | P.5.1. Serious injury claims per million hours worked<br>P.5.2. Number of deaths per year<br>P.5.3. Evidence that WHS procedures and training programs have reduced safety incidents. |
| | Grower health & wellbeing goals and measures to be developed by industry | |
| **Diversity & capability**  | P.6. Attract and retain motivated workers creating rewarding career paths and a sustainable workforce | P.6.1. % producers reporting their business was impacted by difficulty in sourcing skilled workers<br>P.6.2. Permanent staff retention rates<br>P.6.3. Proportion of seasonal workers who continue in horticulture<br>P.6.4. Career pathways available<br>P.6.5. Number of apprentices<br>P.6.6. Education level of horticulture employees |

| SUSTAINABLE DEVELOPMENT GOALS | HORTICULTURE GOAL | INDICATOR |
|---|---|---|
| | | P.6.7. Availability of training and education for careers in horticulture. |
| | P.7. Encourage diversity in the horticulture sector | P.7.1. Diversity of participation in industry, leadership roles and training opportunities |
| | Indigenous engagement goals and measures to be developed by industry | |
| **Governance**   | P.8. Australian horticulture's leadership structures and capacity build the vitality and sustainability of the horticulture sector | P.8.1. Perceived effectiveness of horticulture sector leadership structures and capacity<br>P.8.2. Participation by growers and industry in leadership training opportunities<br>P.8.3. % horticultural businesses with written business plan. |
| **Thriving communities**   | P.9. Regional, peri-urban and urban communities value the contributions of horticulture | P.9.1. Proportion of employment in local communities that is related to horticultural production<br>P.9.2. Regional impact: direct and indirect contribution to gross regional product<br>P.9.3. Regional impact: direct and indirect contribution to employment<br>P.9.4. The extent of horticulture producers and employees' involvement in local community activities. |
| | P.10. Recognition of horticulture in local government planning in key growing regions | P.10.1. Effectiveness of planning mechanisms to reduce conflict between horticultural production and residential and peri-urban land uses<br>P.10.2. Proportion of industry gross value of production (GVP) grown in significant urban areas (SUAs). |
| | P.11. Become an economic powerhouse for local communities and the Australian economy | P.11.1. Gross value of production<br>P.11.2. Value of horticultural exports<br>P.11.3. Industry sentiment<br>P.11.4. Resilience to and preparedness for trade risk exposure and market volatility<br>P.11.4. Diversification of income streams. |

**Table A1-3: Horticulture goals and indicators for Planet and Resources pillar**

| SUSTAINABLE DEVELOPMENT GOALS | HORTICULTURE GOAL | INDICATOR |
|---|---|---|
| **Sustainable agricultural practice**<br>  | R.1. Best practice land management is used in horticultural production | R.1.1 Participation in best practice programs (number of enterprises and hectares of production involved) |
| | R.2. Soil health and productive capacity is maintained or improved | R.2.1. % horticultural businesses undertaking soil, leaf or fruitlet tests by frequency<br>R.2.2. % farms with organic carbon in topsoil steady or improving<br>R.2.3. Proportion of businesses using management practices to maintain ground cover for horticultural plantings<br>R.2.4. % farms with soil maps and/or descriptions. |
| | R.3. Nutrient applications are matched to crop need | R.3.1. % producers using an informed strategy to match nutrient use to crop needs<br>R.3.2. Nutrient use efficiency<br>R.3.3. Use of best practices to manage manures and composts. |
| | R.4. Movement of soil, nutrients and chemicals into the environment are minimised | R.4.1. Strategies used to minimise contamination of run-off water from container-grown production systems and packing sheds<br>R.4.2. Use of erosion management strategies on drains and drainage areas in high-risk run-off areas such as minimal slope, sealed or grassed or vegetated. |
| **Water**<br>  <br>***Water supply for extractive use (including irrigation) is managed by governments through regulated allocations and water planning*** | R.5. Reliable, viable access to sustainable water resources | R.5.1. % producers with a water security risk strategy<br>R.5.2. % farms with adequate water for cropped area. |
| | R.6. Responsible and efficient use of allocated water to optimise production per unit of water | R.6.1. Irrigation water use efficiency ML/ha<br>R.6.2. Water use efficiency (Yield /ML)<br>R.6.3. Water use productivity (GVP $/ML). |
| | R.7. Objective measures guide more efficient water use | R.7.1. % growers using soil moisture monitoring<br>R.7.2. % growers scheduling irrigation to measured deficits. |
| | R.8. Increased adoption of water recycling and reuse | R.8.1. Safe and efficient use of water recycling and reuse practices in production<br>R.8.2. Safe and efficient use of water recycling and reuse practices in packing sheds. |
| **Biodiversity & pollinators**<br>  | R.9. Biodiversity is managed sustainably | R.9.1. % businesses with land set aside for conservation / protection<br>R.9.2. Involvement in activities to encourage biodiversity<br>P.9.3. % producers actively managing feral animals and invasive weeds<br>R.9.4. Proportion of nursery plants sold that are Australian native or can provide biodiversity value. |
| | R.10. Australian horticultural crops have effective pollination and protect pollinator species | R.10.1. Pollination services match demand<br>R.10.2. Strategies used to protect and attract pollinators. |

| SUSTAINABLE DEVELOPMENT GOALS | HORTICULTURE GOAL | INDICATOR |
|---|---|---|
| **Pests & disease management**<br>  | R.11. Responsible management of pests, weeds, diseases and agricultural inputs | R.11.1. Industry capability to effectively manage pests, weeds and diseases<br>R.11.2. Capability, understanding and adoption of integrated pest, disease and weed management (IPDM and IWM) and resistance management strategies. |
| **Biosecurity**<br>  | R.12. Proactively manage biosecurity risks from pest and disease incursions into regions and Australia | R.12.1. % producers having a biosecurity management plan<br>R.12.2. Industry capacity to respond to a biosecurity incursion<br>R.12.3. Biosecurity protocols, technology and strategies for market access. |

**Table A1-4: Horticulture goals and indicators for Climate and Waste pillar**

| SUSTAINABLE DEVELOPMENT GOALS | HORTICULTURE GOAL | INDICATOR |
|---|---|---|
| **Emissions**   | W.1. Horticultural plants capture carbon; production systems minimise greenhouse gas emissions | W.1.1. Carbon sequestration of horticultural plantings (CO2e)<br>W.1.2. Agricultural soils: Direct soil emissions - Inorganic fertilisers<br>W.1.3. Greenhouse gas emissions: Agricultural soils - Indirect soil emissions including atmospheric deposition, fertiliser, and nitrogen leaching and run-off fertiliser<br>W.1.4. Greenhouse gas emissions from land use, land use change and forestry; cropland, perennial woody crops<br>W.1.5. Life cycle impact assessment. |
| **Energy**   | W.2. Energy is used efficiently, with an increased proportion from renewable sources | W.2.1. Energy use GJ/unit production<br>W.2.2. % Producers who monitor and review electricity and fuel use<br>W.2.3. % farms using practices to improve energy efficiency<br>W.2.4. Share of energy from renewable sources. |
| **Climate adaptations**   | W.3. Australian horticulture understands and manages the risks of climate change and extreme weather variability and builds resilience to natural disasters | W.3.1. % producers with a climate risk assessment and management strategy<br>W.3.2. Availability of financial and insurance products that help build resilience to natural disasters and extreme weather. |
| | W.4. Increased use of horticultural plants and green space cools our cities and mitigates climate extremes | W.4.1. % reduction in urban heat effect through greenlife<br>W.4.2. Contribution of appropriate greenlife to mitigating bushfire hazard in urban environments. |
| **Food waste**   | W.5. Increase the proportion of produce that meets first grade quality and increase utilisation of lower grade produce | W.5.1. % produce meeting first grade quality standards<br>W.5.2. Volume of potential food waste saved through secondary products<br>W.5.3. New food science solutions to utilise lower grade produce. |
| | W.6. Reduce food waste in the production system | W.6.1. Volume of on farm food waste (tonnes edible produce not entering the supply chain). |
| **Waste**   | W.7. Packaging is minimised, recyclable, compostable or reusable | W.7.1. % of horticultural packaging that is recyclable, compostable or reusable<br>W.7.2. Days of shelf-life extension provided by packaging. |
| | W.8. Reduce, reuse or recycle on-farm waste and input supply packaging | W.8.1. % producers with a waste management plan<br>W.8.2. Volume organic farm waste to landfill<br>W.8.3. Volume organic farm waste diverted to composting for reuse<br>W.8.4. Volume inorganic farm waste<br>W.8.5. Regional distribution of reuse and recycling facilities for plastic waste from farms (drip tape, films, bunch bags, input supply packaging etc)<br>W.8.6. Proportion of input supply packaging that is reused, recycled or composted |

This report has been prepared by:

**RM Consulting Group Pty Ltd trading as RMCG**

Suite 4, Level 3, 108 Power Street, Hawthorn Victoria 3122

(03) 9882 2670 — rmcg.com.au — ABN 73 613 135 247

Offices in Victoria, Tasmania and NSW

**Key RMCG contact**

Dr Kristen Stirling

0488 908 416 — kristens@rmcg.com.au

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RMCG

JUNE 2025

# Communications plan – Australian Avocado Sustainability Strategy

Draft

Hort Innovation

Suite 4, Level 3, 108 Power Street, Hawthorn Victoria 3122
rmcg.com.au — ABN 73 613 135 247 — RM Consulting Group Pty Ltd
Victoria — Tasmania — NSW

Certified B Corporation

# Table of Contents

# 1 Introduction

## 1.1 PURPOSE

This communications plan has been developed to support the Australian avocado industry to increase awareness of the Australian Avocado Sustainability Strategy and its importance to growers and the wider industry.

This plan acts as a guiding document to assist in the launch of the strategy and follow-up communications to industry over a period of 12 months. It outlines:

- Background and drivers for the development of the Australian Avocado Sustainability Strategy
- Communications goals
- Target audiences
- Key messages
- Communications action plan (responsibilities and approach including key communications activities, channels and timing)
- Monitoring approach
- Example content for social media.

## 1.2 BACKGROUND AND DRIVERS

### AUSTRALIAN AVOCADO INDUSTRY

Australia is one of the world's top 20 avocado producers, and the third-largest consumer. Avocados are grown throughout the year, particularly in Queensland, Western Australia and New South Wales. Most avocados are produced for the domestic fresh market with a small amount sent to processing.

Over the past decade, the Australian avocado industry has experienced significant growth and this is predicted to continue. As existing domestic markets have limited capacity to grow, this oversupply will need to be addressed by industry targeting established and emerging export markets.

### WHY SUSTAINABILITY MATTERS

In the globalised supply chain, consumers and stakeholders are increasingly demanding more transparency and accountability from industries regarding their sustainability efforts.

The competitiveness of the Australian horticulture industry is reliant on the generation of value to customers and society, economic stability, social licence and environmental stewardship. Planning for, demonstrating and striving towards greater levels of sustainability is critical for the industry. Factors that drive sustainability include:

- Consumer and market expectations
- Regulatory requirements
- Environmental considerations such as climate change, water scarcity and biodiversity loss.

Sustainability efforts in Australian agriculture and horticulture are guided by the Australian Agriculture Sustainability Framework (AASF) and the Australian-Grown Horticulture Sustainability Framework (AGHSF).

## 1.3 SUMMARY OF THE AUSTRALIAN AVOCADO SUSTAINABILITY STRATEGY

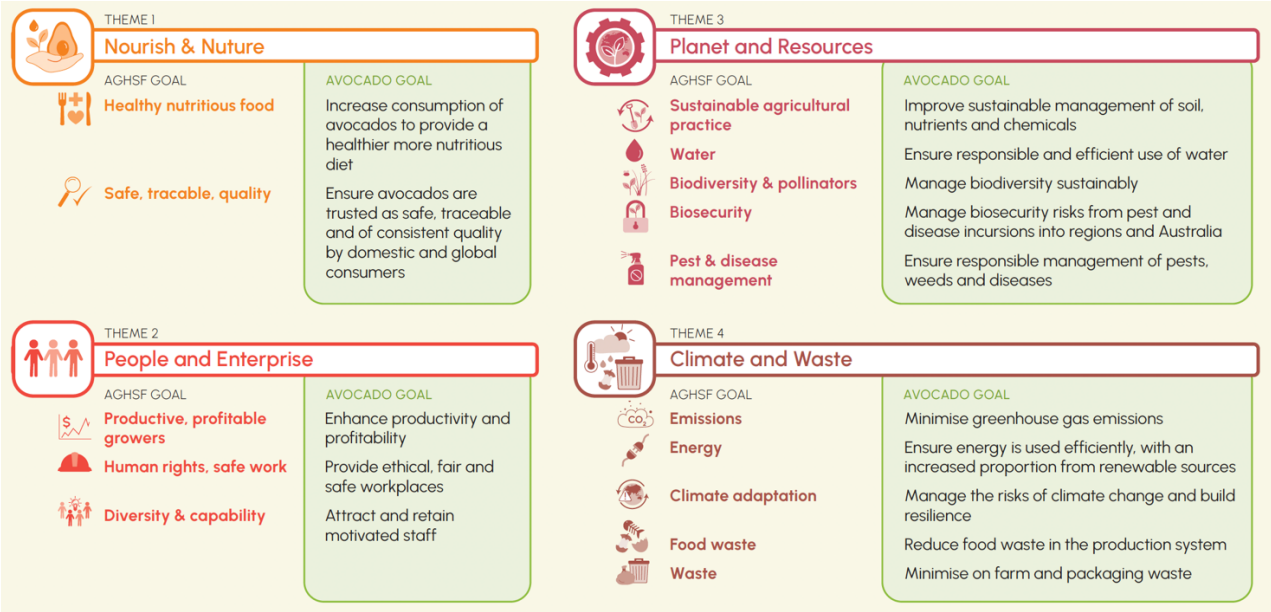
The Australian Avocado Sustainability Strategy was developed in 2025 by RM Consulting Group (RMCG) on behalf of Hort Innovation (Project Number: AV23016).

The themes, goals and indicators in the strategy are based on those in the 2023/24 AGHSF, and are targeted to what is relevant and appropriate for the Australian avocado industry.

### VISION

The avocado industry is prosperous and profitable, producing food to nourish people, contributing to thriving communities and protecting our environment.

### THEMES AND GOALS




### KEY CONSIDERATIONS IN COMMUNICATION OF THE STRATEGY

The key to the long-term sustainability of the Australian avocado industry is to ensure that the perceived conflict between sustainability and competitiveness are addressed through strategic initiatives that ensure avocado businesses are profitable, yet have suitable strategies in place to mitigate risk.

Given the closer scrutiny on sustainability claims (for misinformation), especially those that are widely recognised and understood by consumers, it is essential that messaging increases the Australian avocado industry's credibility and protects them from greenwashing accusations.

## ACKNOWLEDGEMENT OF COUNTRY

We acknowledge the Traditional Owners of the Country on which we work throughout Australia and recognise their enduring connection to the land, waters, and culture. We pay our respects to their Elders, both past and present, and acknowledge emerging leaders. Furthermore, we express our gratitude for the knowledge and insights that Traditional Owners and other Aboriginal and Torres Strait Islander peoples contribute to our collective work in Australia.

We extend our respects to all Aboriginal and Torres Strait Islander communities. We acknowledge that Australia was founded on the genocide and dispossession of First Nations peoples and affirm that sovereignty was never ceded in this country. We embrace the spirit of reconciliation, striving towards self-determination, equitable outcomes, and an equal voice for Australia's First Peoples.

# 2 Communications plan

## 2.1 COMMUNICATIONS GOALS

- Increase awareness of the Australian Avocado Sustainability Strategy – including its vision, themes and goals – within the industry and more broadly across Australia and internationally.
- Provide greater transparency around sustainability claims made by the Australian avocado industry and increase the industry's credibility with key stakeholders to support increased consumption.

## 2.2 TARGET AUDIENCES

The following target audiences were identified for this communications plan. (Table 2-1).

**Table 2-1: Target audiences for the Australian Avocado Sustainability Strategy**

| PRIMARY | SECONDARY |
|---|---|
| ▪ Avocado growers<br>▪ Industry representatives and service providers<br>▪ Supply chain participants<br>▪ Retailers<br>▪ Export markets<br>▪ Consumers (domestic and international) | ▪ Federal Government<br>▪ Rural and agriculture sector media<br>▪ General media<br>▪ Potential co-investors/research partners |

## 2.3 KEY MESSAGES

### BROADER KEY MESSAGES

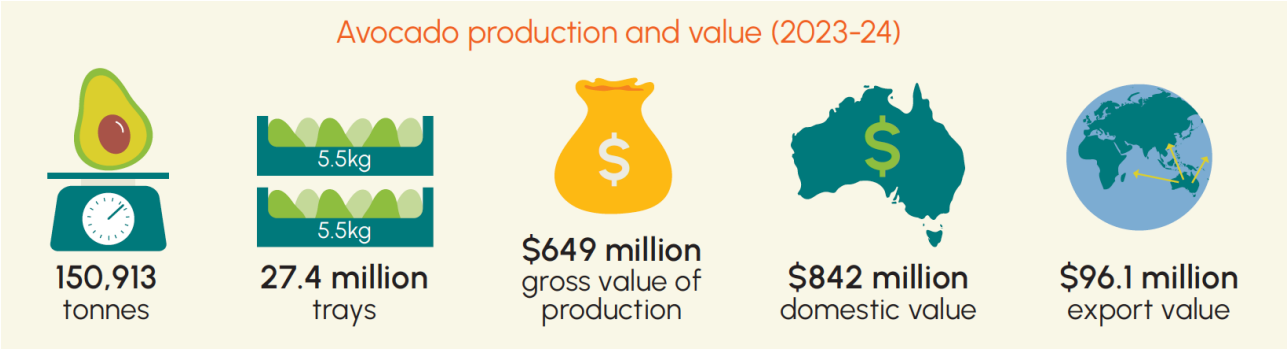
- The Australian Avocado Sustainability Strategy outlines the avocado industry's vision to be prosperous and profitable, producing food to nourish people, contribute to thriving communities and protect the environment.
- The Australian Avocado Sustainability Strategy was developed in close consultation with growers and industry to ensure Australian avocados are produced in a way that is environmentally, socially and economically responsible.
- Using the four themes of Nourish and Nurture; People and Enterprise; Planet and Resources; and Climate and Waste, the Australian Avocado Sustainability Strategy provides a practical roadmap to improve the sustainability of avocado businesses and the broader industry. Actionable goals specific to avocado production are aligned with broader industry frameworks that guide sustainability initiatives in Australian agriculture and horticulture.
- The Australian Avocado Sustainability Strategy underscores the industry's leadership and commitment to sustainability, providing a pathway to secure the future productivity, profitability and resilience of the industry and ensure continuous supply of high-quality avocados to local and international markets.
- The strategy provides consumers with confidence that our avocado industry takes sustainability seriously.

### GROWERS AND INDUSTRY

- The competitiveness of the Australian avocado industry, and horticulture more broadly, relies on the generation of value to customers and society, economic stability, social licence and environmental stewardship. The Australian Avocado Sustainability Strategy provides a practical roadmap with actionable goals to ensure growers can meet these targets and keep the industry thriving.

- Profitability and sustainability in the Australian avocado industry are intrinsically linked – there is no one without the other.
- The Australian Avocado Sustainability Strategy ensures that tracking progress towards sustainability does not fall to growers but links to data that can be accessed through existing industry initiatives.

## FACTS ON THE AUSTRALIAN AVOCADO INDUSTRY




- **Production and value:** Australia is one of the world's top 20 avocado producers, and the third-largest consumer of avocados.[1] In 2023-24, approximately 690 businesses produced almost 160,000 tonnes of avocados in Australia, with a gross value of $649 million.[2]
- **Production regions:** Australia's diverse climate allows avocados to be produced year-round, with production peaking from June to November. Queensland is the largest producing state, contributing just over 50% of the country's avocados, followed by Western Australia with around 33%, and New South Wales with around 16% of production volume.[3]
- **Domestic value:** Most avocados are produced for Australia's fresh market, and was valued at $842 million in 2023-24. A small component (approximately 5%) of Australian avocados are processed.
- **Industry growth:** Over the past decade, the Australian avocado industry has experienced significant growth, with forecasts for domestic production to expand to around 170,000 tonnes per annum by 2026. As existing domestic markets have limited capacity to grow, future projected volumes will need to be met by export markets.[4]
- **Export value:** Australian avocado exports were valued at $96.1 million in 2023-24. Current export markets are growing and include Hong Kong, Singapore, Malaysia and Japan.

## ATTRIBUTION

- The Australian Avocado Sustainability Strategy was developed in 2025 by RM Consulting Group (RMCG) on behalf of Hort Innovation (Project Number: AV23016). The Australian Avocado Sustainability Strategy was funded by Hort Innovation using the avocado 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.

  *Note: Include Hort Innovation Avocado Fund where possible. For more information refer to Hort Innovation's publication guide, which is available on the 'project resources' page of the Hort Innovation website here: www.horticulture.com.au/project-resources.*

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1 Australian Trade and Investment Commission (2023) URL: https://www.austrade.gov.au/en/news-and-analysis/news/avocados-australia-is-growing-exports-in-the-ripe-direction#:~:text=Taking%20Australian%20avocados%20to%20the%20world&text=In%202022–23%2C%20the%20global,consumer%20knowledge%20about%20the%20fruit.

2 Avocados Australia (2024) "Facts at a Glance 2023/24 for the Australian avocado industry"

3 Avocados Australia (2024) "Facts at a Glance 2023/24 for the Australian avocado industry"

4 Avocados Australia (2022) "Australian Avocado Export Strategy 2022-2026 White Paper" URL: https://avocado.org.au/wp-content/uploads/2022/03/Australian-Avocado-Export-Strategy-White-Paper.pdf

## 2.4 ACTION PLAN

### RESPONSIBILITIES

A proposed approach to the responsibility of communication activities on the Australian Avocado Sustainability Strategy is outlined in Table 2-2. For consistency and efficiency, this aligns with the governance structure outlined in the strategy.

Where possible, activities and messaging should collaborate with other levy-funded R&D projects, particularly export development, and the marketing component of the Avocado Fund to support the delivery of this communications plan.

**Table 2-2: Responsibility for communications on the Australian Avocado Sustainability Strategy**

| NAME | ROLE |
|---|---|
| **Avocados Australia, supported by Hort Innovation** | Ownership and oversight |
| **Avocados Australia communications team** | Implementation lead |

### APPROACH

Table 2-3 outlines the activity, channel and timing for communications activities. These activities are relevant to all target audiences listed in Section 2.2.

**Table 2-3: Communications approach for the Australian Avocado Sustainability Strategy**

| ACTIVITY | CHANNEL | TIMING |
|---|---|---|
| **Launch**<br>Goal: Officially launch the Australian Avocado Sustainability Strategy | ▪ **Website:** Establish landing page (hosted by Avocados Australia or Hort Innovation)<br>▪ **Magazine:** *Talking Avocados* feature<br>▪ **E-newsletter:** *Guacamole* article<br>▪ **Social media:** Posts and videos/reels on Instagram, Facebook, LinkedIn, X, TikTok, YouTube<br>▪ **Media release:** Joint media release with Avocados Australia and Hort Innovation targeted at industry and consumer outlets<br>▪ **Event:** Potential launch in Australia and international trade show (e.g. Asia Fruit Logistica)<br>▪ **Targeted marketing:** Social media ads, paid media promotion etc. | **Date TBC** |
| **Follow-up communications (short-term)**<br>Goal: Build awareness of the strategy, focusing on the themes and goals | ▪ **Analytics:** Review impact of activities using communications analytics and update approach as necessary<br>▪ **Website:** Update page and content, check URLs<br>▪ **Magazine:** *Talking Avocados* article<br>▪ **E-newsletter:** *Guacamole* article<br>▪ **Social media:** Posts and videos/reels on Instagram, Facebook, LinkedIn, X, TikTok, YouTube<br>▪ **Media release:** Joint media release with Avocados Australia and Hort Innovation targeting industry and consumer outlets<br>▪ **Targeted marketing:** Social media ads, paid media promotion etc. | **1-6 months**<br>▪ Analytics: Quarterly<br>▪ Website: As needed<br>▪ Magazine: Quarterly<br>▪ E-newsletter: Monthly<br>▪ Social media: Fortnightly<br>▪ Media release: Quarterly<br>▪ Targeted marketing: As needed |

| ACTIVITY | CHANNEL | TIMING |
|---|---|---|
| **Follow-up communications (medium- to long-term)**<br><br>Goal: Continue building awareness of the strategy and highlight 'sustainability success stories' of leading avocado growers and industry members | ▪ **Analytics:** Review impact of activities using communications analytics and update approach as necessary<br>▪ **Profiles:** Develop 1-3 'sustainability success stories' adapted to all formats (written, audio and video)<br>▪ **Website:** Update page and content, check URLs<br>▪ **Magazine:** *Talking Avocados* article<br>▪ **E-newsletter:** *Guacamole* article<br>▪ **Social media:** Posts and videos/reels on Instagram, Facebook, LinkedIn, X, TikTok, YouTube<br>▪ **Media release:** Joint media release with Avocados Australia and Hort Innovation targeting industry and consumer outlets<br>▪ **Targeted marketing:** Social media ads, paid media promotion etc. | **6-12 months**<br>▪ Analytics: Quarterly<br>▪ Website: As needed<br>▪ Magazine: Quarterly<br>▪ E-newsletter: Monthly<br>▪ Social media: Fortnightly<br>▪ Media release: Quarterly<br>▪ Targeted marketing: As needed |

### MEDIA LIAISON

In all instances, Hort Innovation provides oversight of the communications on projects on which it is the contract manager. Avocados Australia communications staff will liaise with Hort Innovation and the marketing component of the Avocado Fund to promote the strategy and harness media opportunities.

Development of media releases and requests for media interviews or comment should be conducted in collaboration with Avocados Australia and the Hort Innovation nominated lead and Media Manager.

## 2.5 MONITORING APPROACH

In line with existing communications and marketing reporting, communications activities should be reviewed regularly (e.g. quarterly) to identify achievements and gaps. Opportunities should be updated in this communications plan.

Qualitative and quantitative data can include:

- Website visitors, browsing sessions, page ranking
- E-newsletter recipients, open rates and click rates
- Social media followers and content interactions
- Media monitoring including reach
- Targeted marketing performance including audience/reach and engagement
- Written and verbal feedback from growers, industry and other stakeholders.

# Appendix 1: Example social media post

🥑 Our avocado industry is taking sustainability seriously! We recently launched a strategy which will safeguard the production of Aussie avocados in a way that is environmentally, socially and economically responsible. 🌏

Using the four themes of Nourish and Nurture; People and Enterprise; Planet and Resources; and Climate and Waste, the Australian Avocado Sustainability Strategy provides a practical roadmap to improve the sustainability of avocado businesses and the wider industry.

The strategy underscores the industry's leadership and commitment to sustainability, providing a pathway to secure the future productivity, profitability and resilience of the industry and ensure continuous supply of high-quality avocados to local and international markets.

The Australian Avocado Sustainability Strategy was developed by RM Consulting Group on behalf of Hort Innovation and in close consultation with avocado growers and industry. Actionable goals specific to avocado production are aligned with broader industry frameworks that guide sustainability initiatives in Australian agriculture and horticulture.

Read about the avocado's pathway to sustainability 👉 <insert URL>

#avocado #australianavocado #sustainability #strategy #horticulture #agriculture

**Page tags: @**Avocados Australia, @Hort Innovation, @Australian Avocados



**Figure A1-1: Examples of social media image tiles**

This report has been prepared by:

**RM Consulting Group Pty Ltd trading as RMCG**

Suite 4, Level 3, 108 Power Street, Hawthorn Victoria 3122

(03) 9882 2670 — rmcg.com.au — ABN 73 613 135 247

Offices in Victoria, Tasmania and NSW

**Key RMCG contact**

Kristen Stirling

0488 908 416 — kristens@rmcg.com.au

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