

## **Final Report**

# **Educating health professionals on the nutrition and health benefits of avocados**

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Educating health professionals on the nutrition and health benefits of avocados

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## Public summary

The purpose of AV20003 was to educate health professionals on the nutrition and health benefits of avocados (AV20003) to encourage recommendation of avocado and ultimately, increase Australian avocado purchase and consumption. The project identified an opportunity to secure health professional support and recommendation for an increased serving size (from 50g to 75g) and set this as a key outcome of the program.

Audience research was undertaken at the commencement of the program (November 2021) to inform priorities and establish a benchmark from which to measure the impact. The research was repeated in February 2023 and November 2023 to track attitudinal and practical change. The program found growing acceptance of the 75g serving size for avocados. There was a 24% increase in health professionals who agreed that a serve of avocado should be 75g and a 39% increase in health professionals who recommended half an avocado (75g) or more as an appropriate portion size for their clients or patients.

To build on this, a scoping review was commissioned to determine whether more avocado could be consumed to elicit health benefits without negative health effects. The University of the Sunshine Coast (UniSC) conducted the review and concluded consumers should be encouraged to eat an avocado a day (~150g) as part of a healthy diet to help lower blood lipids without the risk of weight gain. The review also provided an overview of the current evidence and identified gaps to help direct future research.

The program identified a significant ongoing opportunity for the industry to build on the momentum achieved by AV20003 and secure widespread health professional support and recommendation for larger portions and more frequent consumption of avocado – up to an avocado a day.

Word count: 284

## Keywords

*Avocado; serving size; half an avocado, an avocado a day; systematic literature review; scoping review; academic paper; health professional; dietitian; general practitioner; conference; database; website; round table; farm tours; industry engagement; audience research; digital*

## Introduction

Like most Australians, health professionals love avocados. This group of influential experts had received little communication prior to the commencement of AV20003 regarding the increasing body of evidence to support the significant nutrition and health benefits of avocados. At the same time, the acceptance of avocado as a key feature of a range of popular diets such as paleo, plant-based, keto and vegan in recent years has laid the foundation for a liberalisation of good fats.

The combination of these factors presented a prime opportunity to drive positive avocado health messaging among health professionals and to encourage an increase in recommendation to clients.

The project objective was to deliver evidence-based information about Australian avocados for dietitians, nutritionists, General Practitioners (GPs) and students in health-related disciplines.

Evidence suggested the most effective way to influence the behaviour of health professionals was to provide activities that combined multiple interventions.<sup>1</sup> Therefore, the project incorporated a combination of touchpoints to inform health professionals about the nutrition and health benefits of avocado, encouraged and enabled them to recommend avocado for inclusion in their clients' diets, to ultimately help increase Australian avocado purchase and consumption.

## Methodology

The AV20003 project, delivered by Bite Communications and accredited practising dietitians Lisa Yates and Nicole Senior, provided evidence-based information about Australian avocados to dietitians, nutritionists, general practitioners, students of health-related disciplines and other health professionals such as fitness professionals and health coaches. The program combined a range of resources, tools, information materials and research to achieve its goals, including:

- 1. Audience research:** To evaluate the impact of the program, a benchmark understanding of health professional perceptions about avocados was established (*Benchmark Survey, November 2021*). The survey questions were repeated mid-way through the three-year program to track progress and inform any required adjustments to ensure the campaign was on track to deliver against the agreed metrics (*Mid-campaign Tracking, January 2023*). Finally, the survey was repeated in the third year of the program (*Year Three Survey, November 2023*) to inform the program evaluation.
- 2. Digital hub for health professionals:** A dynamic hub was created to form the centre of the digital communications ecosystem for the program and provide health professionals with easily accessible information and up-to-date information on the nutritional and health benefits of avocados. The digital hub expanded on the former health professionals' section on the Australian Avocados website and housed the CSIRO Systematic Literature Review (SLR) and published paper, research updates, resources and meal plans, with tools to support their wider dissemination.
- 3. Creation of a targeted customer database:** A database acquisition program was implemented to build a database of engaged health professionals for direct communication. Lead generation campaigns, incentivised with compelling resources from the digital hub, drove targeted database sign-ups. The database was used for regular communications and science updates via electronic distributed mail.
- 4. Systematic literature review (SLR):** The CSIRO was commissioned to deliver a systematic literature review, which summarised the global body of scientific literature on the nutrition and health benefits of avocado and human health outcomes. The findings were provided in two stages: (i) a research summary report; and (ii) a scientific paper submitted for publishing in an academic journal. Communications activities were undertaken to amplify the findings to the target audiences.

5. **Roundtable on serving sizes:** A roundtable of seven key opinion leaders, in nutrition and health, was invited to discuss and review the recommendations and serving size. The roundtable came to a consensus on increasing the daily serving size for avocados from 50g to 75g (half a medium avocado) per day.
6. **Farm tours and conferences:** To strengthen connections with healthcare professionals and health influencers, four farm tours were held during the program to build a stronger connection with avocados by grounding the health benefits in the knowledge of provenance, varieties, and the care taken to grow Australian avocados. To further increase and diversify education opportunities, the program also held an interactive trade exhibit at six key healthcare professional conferences, disseminating educational information and recruiting to the database.
7. **Global research centre engagement:** Lines of communication were established with existing research organisations, including the (US) Avocado Nutrition Centre, to leverage existing available materials and remain informed about their pipeline of upcoming nutrition research.
8. **Scoping review:** UniSC was commissioned to conduct a scoping review to (i) determine the optimal avocado serving size (amount and frequency) to elicit health benefits without negative health outcomes, and (ii) provide an overview of the evidence identifying any gaps in research to inform future programs.
9. **Industry engagement:** There were regular industry communications during the program to inform and equip members with the information and tools to amplify the nutrition and health benefits of avocados on their own channels.
10. **Oversight:** A Project Reference Group (PRG) was established to oversee and monitor the project’s progress and successful implementation to timeline. The PRG consisted of industry members, Hort Innovation representatives and external experts with proficiency in marketing, nutrition and primary produce. Outputs and impact were assessed throughout the program and regular updates provided a part of milestone report submissions and in six-monthly Project Reference Group (PRG) meetings.

### Overview - Four Year Plan



## Results and discussion

### Key Outcomes

Health professionals influence the food behaviour of millions of Australian consumers each year through direct consultations, public health programs and guidelines, media and social channels, and the food industry. Dietitians in particular play a critical role in the food ecosystem, translating the science nutrition and health, and playing a key role in food system transformation by facilitating a population-wide shifts to healthy and sustainable diets.<sup>2</sup>

A 2024 study by Griffith University<sup>3</sup> on public perceptions of dietetic services among in Australia and New Zealand public found a third of people surveyed had seen a dietitian and 88% were interested in accessing a dietitian. While doctors are more frequently visited, and the study found that they were the most trusted source of dietary information (87%), the researchers highlighted the important role dietitians play in supporting doctors with credible nutrition information and the latest science. The research also investigated the types of tools and services people accessing nutrition services expected and found that take-home written information, including meals plans and specific food information were the tools they expected service providers to offer. These findings support the approach and structure of AV20003.

The program has delivered three key outcomes:

- **Established a dynamic communications platform and framework.** This included a website with fact sheets, meal plans and the latest academic research and a digital communications program to drive usage.
- **Provided health professionals the science to substantiate an increased serving size.** This included a CSIRO systematic literature review (summary report and published paper), a roundtable consensus report and the regular science updates.
- **Achieved acceptance of the increased serving size of 75g of avocado with health professionals actively recommending it.**

### Research and Measurement

#### Audience Surveys

Three waves of audience research were conducted (Benchmark Survey, November 2021; Mid-campaign Tracking, January 2023, and Year Three Survey, November 2023). Health professionals targeted were dietitians, GPs, and fitness professionals, as these groups have a strong impact on food choices in terms of credibility and direct contact with consumers. Other health professional categories targeted include nurses, exercise physiologist and students studying relevant disciplines as well as home economists.

The Year Three Survey findings revealed positive outcomes, with an increased frequency of health professionals recommending avocados daily, endorsing larger serving sizes (a shift to half an avocado), and recognising their place in multiple food groups outlined in the Dietary Guidelines, including as a source of healthy fats. Throughout the program, there has been a notable increase in the percentage of survey respondents acknowledging the significance of avocados for good health within a balanced diet, increasing by 34% (41% at benchmark to 55% in the Year Three results).

Health professionals were incorporating avocados into their own diets more frequently with a 13% increase in those who reported consuming avocados a few times a week or more often (68%, up from 60% at benchmark). Importantly, health professionals were recommending their clients/patients eat avocado weekly or more (78%, up from 75% at benchmark) and a 71% increase in those recommending daily avocado consumption (24% up from 14% at benchmark).

The Year Three research also showed a growing preference for larger portions, with both half and whole avocados seeing increased intake, indicating both support and adoption of the 75g serve size. Between the Benchmark and Year Three Surveys, there was a 24% increase in health professionals who agree that a serve of avocado should be 75g, and a 39% increase in health professionals who recommended either half an avocado (75g) or more as an appropriate portion size for their clients or patients. Notably, there was a 300% (four-fold) increase in health professionals recommending a whole avocado to patients and clients (16%, up from 4% at benchmark).

There is a positive trend among health professionals accurately selecting the correct answers when asked about the specific nutritional properties and health benefits of avocados. However, a disparity emerges when respondents are asked to self-assess their familiarity of the nutritional properties of avocados, as the majority (91%) do not claim expert knowledge. This presents an opportunity to nurture the health professional community and enhance their confidence levels through highly targeted and personalised communications, as despite the evident increase in knowledge, there is hesitation in explicitly acknowledging their expertise. Addressing this confidence gap can validate their knowledge and foster self-assurance, so they can confidently recommend and assure their patients and clients that avocado is a healthy, nutritious everyday food.

In assessing the relevance of resources, 67% of survey respondents had obtained resources and found them useful or very useful. Health professionals identified eNewsletters (43%), handouts such as flyers of fact sheets for patients and clients (41%), and social media posts (39%) as the most useful. These, among other Australian Avocados resources were predominantly accessed through eNewsletters, specifically the Australian Avocados Health Professional EDM (50%), followed by social media posts (45%) and the health professional website (32%). This pattern reflects a notable shift towards digital platforms, emphasising the growing influence and effectiveness of digital channels in disseminating information and engaging health professionals in the context of avocado education. Reinforcing this notion, majority of health professionals would find eNewsletters most useful in future programs (54%).

### KPI Tracking

In addition to the audience tracking research, metrics were established at the program’s outset (KPIs) and performance against them tracked. As a new program, this involved best-estimates for some measures and not all KPIs were met by the end of year three. KPIs were revisited as part of the final year planning, agreed with the PRG and shared with Hort Innovation as part of Milestone 109. The only KPI not met at the conclusion of the program was database growth.

AV20003: Key Performance Indicators	KPI	Tracking							Final report
		as at 23 Mar 2022	as at 14 Sept 2022	as at 22 Feb 2023	as at 31 Aug 2023	as at 12 Dec 2023	as at 28 Aug 2024	as at 30 Sept 2024	as at 7 Feb 2025
<b>Database</b>	<b>4,000</b>	1,827	1,931	1,559	2,785	3,055	3,374	3,578	<b>3,505</b>
<b>EDMs &amp; Research Alerts</b>									
Number disseminated	<b>23</b>	1	6	9	13	16	21	22	<b>24</b>
People reached (email sends)	<b>45K</b>	1,827	3,983	8,303	14,978	20,703	39,517	43,815	<b>52,109</b>
Open rate*	<b>30%</b>	21%	31%	40%	36%	40%	39%	39%	<b>38%</b>
Click Through Rate (CTR)*	<b>10%</b>	21%	23%	17%	15%	20%	23%	23%	<b>22%</b>
<b>Farm Tours</b>									
Number	<b>4</b>	-	1	1	3	4	4	4	<b>4</b>
Attendees (total over 4 events)	<b>12-16</b>	-	4	4	10	13	13	13	<b>13</b>
Digital amplification (impressions over 4 events)	<b>50K</b>	-	211,600	211,600	753,352	914,203	914,203	914,203	<b>914,203</b>
<b>Conferences</b>									
Number	<b>6</b>	-	2	2	4	4	6	6	<b>6</b>
One-on-one engagements (total over six events)	<b>2,200</b>	-	910	910	1,990	1,990	2,358	2,358	<b>2,358</b>
Digital amplification (impressions over six events)	<b>145K</b>	-	36,216	36,216	133,001	133,001	147,873	147,873	<b>147,873</b>
<b>Health Report &amp; CSIRO Publication</b>									
Impressions (report availability / key messages)	<b>100K</b>	-	40,897	40,897	676,009	676,009	703,953	705,239	<b>705,239</b>
Downloads via hub and hard copies	<b>1,800^</b>	-	629^	672^	1,539^	1,539^	1,867	1,892	<b>1,923</b>
<b>Website</b>									
Total sessions/month	<b>200</b>	-	209	208	210	191	358	314	<b>270</b>
Total users/month	<b>200</b>	-	192	218	211	177	294	253	<b>208</b>
Asset downloads / distribution (combined)	<b>7,500^</b>	-	1,863^	1,987^	5,543^	6,882^	8,536^	9,261^	<b>10,217^</b>
<b>Industry Engagement</b>									
Grower EDMs disseminated	<b>12</b>	-	4	6	8	10	11	11	<b>12</b>
PRG meetings	<b>6</b>	1	2	3	5	5	5	6	<b>6</b>
<b>Scoping Study</b>									
Report and results shared	<b>1</b>	-	-	-	-	-	-	-	<b>1</b>
<b>Communications plan</b>									
Three-year communications strategy	<b>1</b>	-	-	-	-	-	-	-	<b>1</b>
<b>Total Impressions</b>									<b>1,819,424</b>

\* Industry average ^ Digital downloads & hard copy

## Summary by Activity

### Electronic Direct Mails (EDMs)

EDMs and Research Alerts were effective tools for information dissemination and audience engagement. Twenty-four EDMs were distributed throughout the program with 52,109 people reached (email sends), above the revised KPI of 45,000. The average click through rate was 22%, more than seven times the healthcare industry benchmark of 3%, while open rates were 38%, which is double the health industry standard. The quota of 24 email newsletters and research alerts was surpassed, with an additional research alert shared. The EDMs were distributed to a growing database of 3,505 people. The database has steadily grown but remains below the revised KPI of 4,000.

### Farm Tours

The farm tours were exceptionally successful, with digital amplification via the key opinion leader attendees nearly doubling the anticipated impressions (28 social media posts and stories generating +914,000 social media impressions, well above the 50,000 impressions anticipated). The 13 key health influencers attending was within the 12-16 expected although there were some last-minute cancellations, some due to illness (COVID). The four orchards visited were Costa (QLD), Donovan Farms (QLD), Mountain Top Orchards (NSW) and Tolson Farms (NSW), and feedback from the growers was positive. A video from each farm tour was developed and housed on the [digital hub](#). The health influencers (influential dietitians and nutritionists) who attended the farm tours were:

- Tess Keightley, APD
- Rose Maclean, APD
- Kiah Paetz, APD
- Megan Boswell, APD
- Rosie Mohr, APD
- Rebecca Gawthorne, APD
- Karen Kingham, APD
- Aidan Muir, APD
- Hannah Mills, APD
- Claudia Crammer, APD
- Sammy Staines, APD
- Alex Parker, APD
- Jacqueline Alwill, APD

### Health Professional Conference and Trade Exhibitions

Health professional conferences were also a great success with the execution of six dynamic and interactive trade exhibits to the three target audiences: dietitians, GPs and fitness professionals. The one-on-one engagement rate exceeded the KPI of 2,200 (increased from the original KPI of 800) with a total of 2,358. The KPI for social amplification of the key messages was also exceeded with a reach of 147,873 generated by the six events.

### CSIRO Research Report and Journal Paper

The CSIRO was engaged to deliver a systematic literature review, which summarised the global body of scientific literature on the nutrition and health benefits of avocado and human health outcomes. This was summarised into a report, the Avocado Nutrition and Health Report. CSIRO also successfully published a journal paper *Avocado Consumption and Cardiometabolic Health: A systematic review and meta-analysis* in the December 2022 issue of the Journal of the Academy of Nutrition and Dietetics – a journal with an impact factor of 4.8 in 2022. The paper was shared via the April 2023 edition of the Avocado program's EDM. This EDM reached 1,559 people, with an open rate of 35%. The paper has also been [cited seven times](#).

Two media releases, one focussed on the Avocado Nutrition Report and one on the publication of the CSIRO research paper, were prepared and disseminated to inform journalists and help to ensure their writings were based on the current literature. The media releases were distributed to more than 120 media representatives covering both mainstream and specialist trade publications (including aged care, parenthood, lifestyle, fitness, health and medical) including nutrition and healthcare experts, key opinion leaders and media spokespeople.

The Avocado Nutrition and Health Report and its scientific paper achieved well above the KPI (100,000 impressions) generating 705,239 impressions. The report and JAND paper were downloaded from the digital hub and distributed at conferences a total of 1,923 times as of 7 February 2025.

## Digital Hub

The digital hub, optimised for all digital devices, was central to our digital ecosystem generating sign-ups to the EDM, providing a home for the digital suite of assets, and a key location for the publication of scientific literature reviews and research updates, recipes and other resources for healthcare practitioners, GPs, fitness professionals and their patients and clients. Establishing connections with the Hass Avocado Board's Avocado Nutrition Center (US) provided valuable information about research projects and advance notice published papers, which helped to fuel the creation of timely research updates and research alert EDMs. Eleven published scientific papers, funded by the Hass Avocado Board, were used to create research updates (64% of research updates created over the life of the project).

Asset dissemination (website downloads and handouts) exceeded expectations (10,217 vs target of 7,500). In addition, UNSW Sydney Bachelor of Nutrition / Masters of Dietetics and Food Innovation is using print resources and a farm tour video as part of its course. The digital hub's total sessions and users per month were less than expected initially but have built momentum throughout the program to meet revised KPIs (total sessions 270 vs target of 200 and total users 208 vs target of 200).

## Scoping Review

To gain insights regarding optimal serving size and identify future opportunities, the University of the Sunshine Coast (UniSC) was commissioned to undertake a scoping review to identify how much avocado can be eaten (quantity and frequency) to elicit health benefits, without negative health effects, such as weight gain. Researchers concluded consumers should be encouraged to eat an avocado a day (~150g) as part of a healthy diet to help lower blood lipids without the risk of weight gain. The review also provided an overview of the current evidence and identified gaps to help direct future research and inform programs.

## Outputs

Table 1. Output summary

Output	Description	Evidence and data
Conducted Benchmark, Mid-Campaign Tracking and Year Three Research	Online survey conducted with a sample of each target audience to establish benchmarks and inform communication program and tailor program when underway	Three online surveys were conducted via survey monkey and reports delivered to Hort Innovation.
Systematic Literature Review (SLR) and Avocado Health & Nutrition report and communications plan rolled out	CSIRO commissioned to conduct SLR, and a summary report prepared by consultant dietitians.	<a href="#">SLR -Review of the health effects of avocados</a> completed and <a href="#">Avocado Nutrition and Health Report</a> for health professionals. <a href="#">Media Release</a> and <a href="#">social media toolkit</a> delivered to Hort Innovation and housed on website.
Health Professional Roundtable on serving sizes and associated communications	Roundtable discussion with seven Key Opinion Leaders (KOLs) to reach consensus on serving size recommendation to 75g/day	Roundtable discussion held on 6 April 2022. Summary report prepared and delivered to Hort Innovation, and key outcomes included in the <a href="#">Avocado Nutrition and Health Report</a> (pg 18-19).
Brand Guidelines and Digital Hub	Built Avocado nutrition digital hub as a subdomain on current Australian Avocados site. Hub houses a library of local/international research, patient resources, reports, and a bank of shareable content	<a href="#">Australian Avocados Nutrition Digital hub</a> build and developed. Highly interactive, accessible, and based on credible science, along with key educational tools and resources for patients/clients addressing therapeutic diets with the inclusion of avocados.

CSIRO published paper	CSIRO manuscript submitted to and accepted by <i>Journal of the Academy of Nutrition and Dietetics</i> . Supported by media release and social media toolkit.	Manuscript ( <i>published</i> ) <a href="#">Journal of the Academy of Nutrition and Dietetics</a> . <a href="#">Media release</a> distributed (1 March 23) and <a href="#">Social media toolkit</a> .
Scoping review	University of Sunshine Coast (UniSC) commissioned and briefed to conduct scoping review. Final report received.	Scoping review report shared by email with Hort Innovation (Jan 2025), and Australian Avocados and AV20003 PRG (Feb 2025).
Quarterly EDMs and Research Alerts	13 EDMs and 11 research alerts distributed to CRM database and 17 research updates	Database building in CRM, EDMs (23 March 22, 6 May 22, 11 August 22, 10 October 22, 6 Dec 22, 30 Jan 23, 28 April 23, 10 July 23, 11 Sept 23, 1 Nov 23, 26 March 2024, 12 June 2024, 15 Sept 2024, and research alerts distributed (21 April 22, 24 August 22, 7 Nov 22, 20 March 23, 6 June 2023, 16 October 2023, 21 April 2024, 15 July 2024, 15 Aug 2024, 1 Oct 2024, 18 Dec 2024) & <a href="#">research updates</a> .
Database acquisition and CRM	CRM database created and active subscribers	3,505 HCPs active on the CRM database.
Messaging House	Key messaging house for avocado industry set-up. Messages reviewed and updated December 2024.	Summary report loaded to Industry Portal and finalised substantiation report shared with members.
Avocado Farm Tours	Four bespoke farm tours for HCPs executed and videos delivered: <ol style="list-style-type: none"> <li>1. Costa's Homestead, North QLD: 18 May 2022</li> <li>2. Don Fort, QLD: 19 April 2023</li> <li>3. Mountain Tops Orchards, NSW: 16 Aug 2023</li> <li>4. Tolson Farm, NSW: 27 Sept 2023</li> </ol>	Four farm tour reports delivered via milestone reporting and video to amplify impact produced (see <a href="#">Farm to Table videos</a> ).
Professional Conference Program	Six conferences implemented: <ol style="list-style-type: none"> <li>1. Filex: 30-31 July 2022</li> <li>2. DA: 14-16 Aug 2022</li> <li>3. GPCE, 19-21 May 2023</li> <li>4. LM, 8-9 Sept 2023</li> <li>5. GPCE, 24-26 May 2024</li> <li>6. DC, 31 May 2024</li> </ol>	Six conference reports delivered via milestone reporting.
Global research centre activities	Collaboration and engagement with international organisations also promoting Avocado health and nutrition	Ongoing collaboration via our nutrition consultants. Published paper shared.
HCP engagement with digital hub	Six patient resources created and used to drive traffic to the digital hub via EDMs, Meta lead acquisition, conferences and farm tours.	Patient resources available loaded to the digital hub. Usage reported in PRGs and milestone reports.
Industry grower communications	Contribute to 12 industry grower communications	Contributed to 12 communications: Guacamole e- newsletter (18 March 22, 1 April 22, 29 April 22, 8 Feb 23, 16 June 23) – Talking Avocados (Autumn 22, Spring 22, Winter 23, Spring 23, Autumn 24, Spring 24), Hort e-newsletter (June 23) plus resources at Avo Connections, QLD Royal Show and a Hong Kong trade show.
Six monthly milestone reports and PRG meetings held	Detailed reports, including progress and outcomes submitted every six months over the three program along with PRG meetings held, slide deck and minutes shared with members	Eight milestone reports delivered and approved and six PRG meetings held, and minutes shared (25 Jan 22, 29 March 22, 20 Sept 22, 14 March 23, 25 Sept 23, 11 Sept 24).
Program logic, monitoring and evaluation plan, risks	Program logic, monitoring and evaluation plan,	All reports/ plans submitted, agreed on and

register and issues management plan	risks register and issues management plan	reviewed annually.
Three-year communications strategy	Recommendations for a three-year program (2025 – 2027) to continue to educate health professionals on the nutrition and health benefits of avocados completed	Recommendations submitted.
Final Report	Evaluation across all aspects of the program extension with impact across each target audience	Detailed final report submitted.

## Outcomes

Table 2. Outcome summary

Outcome	Alignment to fund outcome, strategy and KPI	Description	Evidence
Knowledge	Established a dynamic communications platform and framework	Digital ecosystem for knowledge sharing among health professionals established. The central hub sits as the health professional section of the Australian Avocados website, and it houses all the educational assets created as part of AV20003.	A question was added to the audience survey to establish the value health professionals placed on the program resources. Two thirds of respondents (67%) found the Australian Avocados nutrition resources useful or very useful.
Awareness	Provided health professionals the most up-to-date information on the nutrition health benefits of avocados to substantiate an increased serving size	The highest quality science was delivered, including the CSIRO systematic literature review report and published paper, roundtable consensus report and the latest science updates. The science was shared with health professionals to improve their knowledge and justify an increased serving size for avocado.	The audience surveys found a 11% increase in health professionals who agree with the statement 'eating avocado is very important and I recommend them to my patients and clients' (71%, up from 64% in the benchmark survey).
Practice Change	Achieved acceptance of the increased serving size for avocado with health professionals actively recommending it.	Education tools, including farm tours, health professional conferences, advertising and electronic direct mail (EDM) were used to share resources with HCPs and educate them on the most up-to-date scientific findings on the nutrition and health benefits of avocados, and specifically the justification for an increased serving size.	The audience surveys found a 24% increase in health professionals who agree that a serve of avocado should be 75g, including a 106% increase in those who strongly agreed.  There has been a 39% increase in health professionals who recommended either half an avocado (75g) or more as an appropriate portion size for their clients or patients; and a 300% (four-fold) increase in health professionals recommending a whole avocado to patients and clients (16%, up from 4% at benchmark).

## Monitoring and evaluation

**Table 3. Key Evaluation Questions**

Key Evaluation Question	Project performance	Continuous improvement opportunities
To what extent has the project increased knowledge, attitude and behaviour of Australian avocados to health professionals regarding the health and nutrition benefits of avocados?	<p><b>Knowledge:</b> Consistent and notable increase acknowledging the significance of avocados for good health within a balanced diet, rising by 34%, from 41% at benchmark to 55% in year three. Further, health professionals are incorporating avocados into their diets more frequently with a rise in consumption to a few times a week and are increasingly recommending consuming avocados daily to their clients.</p> <p><b>Attitude:</b> 71% of respondents believed eating avocado regularly is an important part of a healthy diet and are recommending them to patients and clients. This is an 11% increase compared with benchmark (64%).</p> <p><b>Behaviour:</b> A 300% (four-fold) increase in health professionals recommending a whole avocado to patients and clients (16%, up from 4% at benchmark). The most recommended amount is half an avocado 75g, 13% increase (45%-40%) from benchmark.</p>	<p>Continue to build, invest, and raise awareness of the health benefits of avocados and provide HCPs with the tools to share this information with their clients and through their spheres of influence.</p> <p>Health professionals want to share positive food news with their clients and followers. Consistently keeping avocados top-of-mind and leveraging the wider global industry investment in nutrition research will continue to deliver results for the industry.</p>
To what extent has the project improved the position of avocados in nutrition eating messages for consumers and highlighted the importance of avocados in the review of the Australian Dietary Guidelines?	KOL round table held, and consensus achieved on increased serving size of 75g. This was cemented in the literature through the CSIRO SLR and publication of the academic paper.	The Australian Guideline Review process is now significantly delayed. Timings for public consultation will fall outside this program, however the documents created (published SLR, scoping review and roundtable findings) could provide support for a submission by the Avocado Industry.
Have the project's activities been effective in promoting a higher serving size of 75g to health professionals through delivering influential health benefit information for their clients?	Activities to promote the 75g serving size, include website, EDMs, patient resources, Avocado Health & Nutrition report, two media releases and social toolkit messaging at six conferences and four paddock to plate farm tours. There were 1.8 million potential opportunities for health professionals to see program messages.	Consider strengthening evidence for 75g serving size and supporting even greater serving sizes (up to 150g) by publishing the UniSC scoping review. The published paper could be used to continue to build credibility in the current recommendation, address barriers regarding weight gain and begin to drive discussions about the benefits of eating an avocado a day.
Has the project provided sufficient and effective health information on the digital hub to amplify key health messages to influence behaviour change?	<p>The database and CRM system is robust and the nutrition digital hub is highly interactive and visual. It contains the Round Table report, the CSIRO Avocado Health &amp; Nutrition report, Journal of the Academy of Nutrition and Dietetics (Feb 2023), media releases, social toolkit, downloadable patient resources and meal plans (6), farm tour videos (4), Hort Portal; Industry claims and Industry substantiation documents.</p> <p>Sixty-seven per cent of respondents to the audience survey have obtained Australian Avocado resources and found them useful or very useful.</p>	Questions were added to the audience survey to establish the value and effectiveness of resources. It showed resources were predominantly accessed through eNewsletters, specifically (50%), followed by social media posts (45%) and then the website directly (32%). This pattern reflects a notable shift towards digital platforms for engaging health professionals in the context of avocado education. This should be a focus for ongoing programs.

<p>Are the outcomes of this project consistent with the need to educate Health Professionals on the health benefits of avocados - by providing credible, evidence-based information and resources - thereby increasing recommendation of avocados in dietary advice?</p>	<p>There has been an increase in the recommendation of avocados and along with an increase in the serving size of avocados.</p>	<p>The nutrition and health education program has not only seen health professionals increase the volume and frequency of avocado they are recommending to patients, but they are eating significantly more themselves. This is a strong indicator of the value of consistent and ongoing education to keep the nutrition and health benefits of avocados top-of-mind.</p>
<p>Has the project made information and resources on the health and nutrition benefits of avocados more readily available to health professionals to educate and utilise with their patients?</p>	<p>Credible research, resources, reports, media releases and social toolkits have been made available online and distributed hard copies at conferences and farms tours to share and amplify with their patients/clients. The majority of health professionals find eNewsletters most useful (54%), followed by published research (52%) and recipe booklets/videos (51%). Anecdotal feedback praised the quality, design and attractiveness of the resources.</p>	<p>Maintain quality outputs and build in further personalisation where possible.  Investment in research by the Hass Avocado Board (US) has provided a strong pipeline of credible scientific research to share with health professionals - 64% of research updates were based on newly published research funded by the Hass Avocado Board. Future programs should explore opportunities to build this relationship and further leverage the US research investment.</p>
<p>Has the project kept the PRG, and industry levy payers informed and up to date on activities, resources and communication activities developed to promote the health benefits of avocados to Australian HPs, their patients, and Australian consumers more widely?</p>	<p>Regular PRG meetings (6) were held and minutes shared. The PRG was engaged and provided good guidance for the program.  Twelve (12) contributions were made to industry publications and a summary of avocado health claims for growers shared and setup in the Industry Portal. These were also reviewed and updated in January 2025.  Resources were also provided at Avo Connections, June 2023, QLD Royal Show, Aug 2023, Hong Kong International Tradeshow Sept 2023.</p>	<p>Continue PRG with strong industry representation for future programs. Look to recruit a new representative from Avocados Australia, following the departure of Hayleigh Dawson.  Seek greater presence at AvoConnection, or regional forums, to share more regular updates.</p>
<p>Have the project’s target engagement levels for health professionals been achieved (as measured by the health professional audience surveys at commencement for benchmarking, at the end of year 2 and at project conclusion, in addition to other measures including EDM engagement stats and HP website portal traffic)?</p>	<p>The EDM database has 3,505 subscribers and EDMs issues to the database deliver an average click-through rate of 22% (KPI 3% based on healthcare industry average). A total of 10,217 educational assets have been downloaded from the website or handed out at conferences and events. There’s an average of 270 webs sessions and 208 web users per month since the beginning of the program.</p>	<p>Continue to build the database and amplify existing assets wherever possible to maximise investment.  Consider cost efficiencies by combining with other Hort Innovation HCP communication programs by to utilise one tagged/segmented database.</p>
<p>Have industry levy industry payers and stakeholders been effectively engaged throughout the project and enabled to receive updates and provide feedback?</p>	<p>Regular engagement via the PRGs has effectively engaged industry payers along with industry communications (attendance at Hort Innovation conferences and resources provided, EDMs/publications).</p>	<p>Ensure ongoing program update via industry communications, ensure attendance and presentation at future Hort Innovation conferences.</p>
<p>Were the interest and engagement levels from the project’s activities - including farm tours, conferences and the roundtable – sufficient to achieve the desired outcomes?</p>	<p>Feedback from activations was very positive across farm tours, conferences and the round table. Farm tour hosts were also very accommodating of the tours and appreciative of the supplied visual resources and video content.</p>	<p>Consider more face-to-face events in cities rather than on farms to enable future programs to connect with more people more efficiently.</p>
<p>Did the audience benchmark research adequately identify the barriers and drivers to recommending avocados to</p>	<p>The benchmark survey identified barriers and drivers, including existing knowledge levels, assets of value in professional practice and</p>	<p>Future programs should build on the benchmark research to track long term</p>

HPs clients and inform the three-year program?	preferred communication methods, and the program was structured to address these.	impacts.
How appropriate were the project’s communication channels to deliver evidence-based information about Australian avocados to health professionals?	The website hub created a dynamic platform with a comprehensive database of evidence, reports and resources to support the health and nutrition benefits of avocados. Face-to-face communications, including the farm tours and health professional symposia, provided an effective tool to reinforce this information and connect the target audience directly to the industry. The audience surveys confirmed that these platforms were appropriate.	The audience survey shows a notable shift towards digital platforms, and this was a focus for the fourth year of the program. It has also informed the three-year communication recommendation for 2025-2027.
How easily accessible and relevant were regular project updates, KPI reporting and other communications activities to industry levy payers and stakeholders?	Regular engagement was maintained via project reporting, PRG six-monthly meetings, milestone status reports and regular industry communications and updates. Our understanding from the PRG is that these were easily accessible and relevant.	Consider including industry levy payers and stakeholders in the tracking research for future programs.
How did project team ensure the project was delivered on time and within budget?	A timeline was developed to ensure the program was delivered, along with regular WIP meetings and formal meetings with PRG members at six monthly intervals. Monthly tracking was captured across the program to ensure program was within the budget.	Continue best-practice governance with oversight provided by PRG.

## Recommendations

There is a significant opportunity to build on the momentum achieved by AV20003 and secure widespread health professional support and recommendation for larger portions and more frequent consumption of avocado – up to an avocado a day.

While AV20003 achieved support for a 75g serving size, along with positive shifts in attitude and recommendation, the current official recommendations in the Australian Guide to Healthy Eating have not yet been updated to reflect the latest science, noting a modest serving size of 10g of avocado, based on concerns over energy density and portion control (“portion caution”).

The communications infrastructure created by the program can leverage the global industry’s investment in health and nutrition research maximising its value. By continuing to build on its momentum we are building a platform to give health professionals the evidence and tools to let their patients, clients and followers know that avocados are a healthy inclusion in their everyday diet and that they can consume up to 150g a day for health benefits without a negative impact on weight.

This in turn will drive consumer demand for Australian avocados through improved knowledge of avocado health and nutrition benefits, which are key drivers for Australian consumers to purchase avocados.

## Refereed scientific publications

### Journal article

James-Martin, G. Brooker, P. Hendrie, G. Stonehouse, W., 2022. Avocado consumption and cardiometabolic disease risk factors: a systematic review and meta-analysis. *Journal of the Academy of Nutrition and Dietetics* 2022. DOI: 10.1016/j.jand.2022.12.008

### Commissioned reviews

Avocado Nutrition and Health Report – Reviewing the scientific evidence: [SLR -Review of the health effects of avocados](#)  
James-Martin G, Brooker P, Hendrie G and Stonehouse W (2022) A Review of the Health Effects of Avocados. CSIRO, Australia.

Casey, E. Villani, A. Pelly, F., 2024. Quantity and frequency of avocado consumption for health benefits in free-living adults: a scoping review. University of the Sunshine Coast, QLD, Australia.

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2. Barbour, L., Bicknell, E., Brimblecombe, J., Carino, S., Fairweather, M., Lawrence, M., Slattery, J., Woods, J., & World, E. (2022). Dietitians Australia position statement on healthy and sustainable diets. *Nutrition & Dietetics*, 79(1), 6. <https://doi.org/10.1111/1747-0080.12726>
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## Intellectual property

No project IP or commercialisation to report.

## Acknowledgements

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### PRG group members:

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- Treena Welch – Green Skin Avocados
- Hayleigh Dawson – Avocados Australia
- Caitlin Reid, APD - Health and the City
- Jess Randall – Lara Valley Produce
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**KOL round table members:**

- Clinical - Weight Management – Dr Janet Franklin (RPAH)
- Public Health - Jemma O’Hanlon (Heart Foundation)
- Fitness Industry - Leanne Ward (The Fitness Dietitian)
- Diabetes - Racheal Freeman (Diabetes Educator Aust.)
- Food Service/Chef - Karen Kingham (ACU Culinary Nutrition)
- Exercise Physiologist - Caitlin Reid (Healthy in the City)
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