

Final Report

Australian olive industry sensory training

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Delivery partner:

NSW Department of Primary Industries (NSW DPI)

Project code:

OL17003

Project:

Australian olive industry sensory training OL17003

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Funding statement:

This project has been funded by Hort Innovation, using the olive 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.

Publishing details:

ISBN 978 0 7341 4603 8

Published and distributed by: Hort Innovation

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141 Walker Street

North Sydney NSW 2060

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www.horticulture.com.au

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Content

Australian olive industry sensory training	1
Content	3
Summary	4
Keywords	6
Introduction	7
Methodology	10
Outputs	14
Outcomes	29
Monitoring and evaluation	35
Recommendations	43
Refereed scientific publications	44
Intellectual property, commercialisation and confidentiality	45
Acknowledgements	46
Appendices	47

Summary

Project objectives:

OL17003: Australian olive industry sensory training was designed to provide the Australian olive industry (AOI) with the necessary skills to enable ongoing monitoring of the sensory attributes of extra virgin olive oil (EVOO) and table olives (TO) aligned with industry specifications for quality. The overall objectives of the project were to:

- Assist Hort Innovation and the AOI in providing a series of integrated staged (beginner- intermediate-expert) training programs
- The training programs were designed to:
 - maintain the sensory expertise of International Olive Council (IOC) and American Oil Chemists Society (AOCS) accredited sensory panelists and nationally accredited competition judges
 - encourage new entrants into the sensory training discipline of AOI and educate them on how to actively fit the quality, flavour and presentation of EVOO and table olives for consistent quality
 - ensure the AOI has a critical mass of trained panelists and competition judges capable of assisting the industry in matching their oil and fruit production to the evolving and increasing demands of the global olive market.

The project has assisted Hort Innovation and the olive industry deliver on:

Outcome 1 of the Olive Strategic Investment Plan: *“Improved on-farm productivity, sustainability and product quality”* using the key strategy: *“Promote world-best practice in olive oil production, storage and packaging to maintain quality and increase consumer confidence”*; and

Outcome 3 *“Greater skills, capacity, and knowledge in the industry”* and the key strategy to drive it: *“Communicate and extend outcomes of industry R&D”*.

The project also facilitated other Strategic Investment Plan (SIP) outcomes and strategies through engagement with other R&D projects, specifically: *OL17006*.

Target audience:

The target audience for this project were EVOO and TO producers, levy payers, the Australian Olive Association (AOA) members, marketers, sensory panelists, EVOO and TO judges (beginners to experts) and enthusiasts, as well as the Hort Innovation research and marketing team.

Key activities:

- Raising the awareness of sensory evaluation for the Australian olive industry via industry consultation.
- Sensory knowledge maintenance of existing olive oil panel members and competition judges – the TasteBook® initiative
- Sensory panel training for new entrants.
- Improved knowledge of table olive sensory descriptors for training and consumer communication.
- Review of past AOOSP sensory panel classification
- Master classes and workshops on EVOO and TO judging and training: Understanding preferences and increasing awareness of using EVOO and TOs among general consumers.
- Extension and outreach
- Project legacy/sensory training program business model evaluation

Key outputs:

Industry presentations, training materials, workshop manual, newsletters and other industry communications to help delivering a series of training program implementing National TasteBook® program for Australian olive industry stakeholders (growers/producers/processors), olive oil panel members and national competition judges.

Key outcomes:

- Increased Australian olive industry stakeholders' participation and engagement in all face-to-face of TasteBook® sessions
- Providing a formal mechanism for delivering a national framework of sensory training
- Improved knowledge, skills and awareness of new entrants, olive oil enthusiasts, olive oil panel members and identified stakeholders from the olive industry with the required sensory assessment skills to confidently undertake organoleptic assessment of EVOO and TO and ensure the consistent delivery of a quality product
- Outreach and involvement with general consumers via delivery of sensory masterclass, consumer tasting, Young Judges Training program and consumer survey
- Capacity building in Australian olive industry via development and delivery of competency based staged training program and resources
- Identification of knowledge gaps for future projects and actions within the industry
- Delivery of clear actionable recommendations for developing an appropriate stand-alone industry-driven sensory training program (self-supported from funding perspective)

Success was measured through registration, attendance, engagement and interaction of participants at all face-to-face National TasteBook® workshops in various states. Participants were provided with pre and post workshop questionnaire to understand individual expectation in learning and monitor the performance of the workshop meeting those criteria. Significant numbers of olive industry stakeholders participated in various modes of training, via face-to-face and online webinars. At appropriate times, olive industry stakeholders were surveyed to gain insight into the value of the information and the various methods of delivery. In delivering a detailed sensory training program, the knowledge and expertise gained from this completed project can be utilised to train next generation judges and sensory panelists for Australian olive industry.

Recommendations:

- It is recommended to continue the delivery of TasteBook® training program and training resources using various formats in the future. However, its success will be determined by an ability to link training needs and requirements from industry stakeholders, with a scouting of available expertise, resources and skill sets within Australian olive industry. Convening regional workshops in the future to present these resources to levy payers is also highly desirable, as is demonstrated by the success of engagement and participation in the current project.
- It is recommended a national "training needs survey" within the Australian olive industry occur periodically to facilitate the identification of ongoing training needs and focus areas. For example, if growers would like to know more about olive grove management or competition judges would like to understand olive oil defects. It is important to understand these specific needs and develop and provide modular workshops targeting different groups.
- More work needs to be done in the future to define and formalise what it is that judges need to know in order to be a good judge. Currently the classification of judges is set by an organisation's Chief Judge and Steward – they determine who will join a panel based on the peer review and relevant skills and expertise. It is recommended to make this more formal so that prospective judges are clear about what skills they require in order to be part of a national or international judging panel. This is an important step-up and requirement for the Australian olive industry as show judging and the results significantly promote the best Australian olive products in the domestic and international markets. Hence, it is a pre-requisite to have competent, qualified judging panel to deliver the job effectively. Chief stewards from international, national and state competitions can coordinate this training (funding permitting) with the support from Hort Innovation and Australian Olive Association.
- It is important to connect state olive councils with a national framework of training and skill upgrade program. It is recommended to work closely with the individual state bodies for accessing the local expertise, promoting available knowledge and coordinating training program.
- 2020 has shown the olive industry how an unprecedented event can help us to be ready to tackle various challenges in our life. With drought, bushfires and now COVID-19, building resilience, connectiveness and networking are much needed skill sets. These unexpected situations disrupt and test the industry's ability to deliver various programs, therefore, future projects will need to build capacity to provide continuous training in virtual sessions.

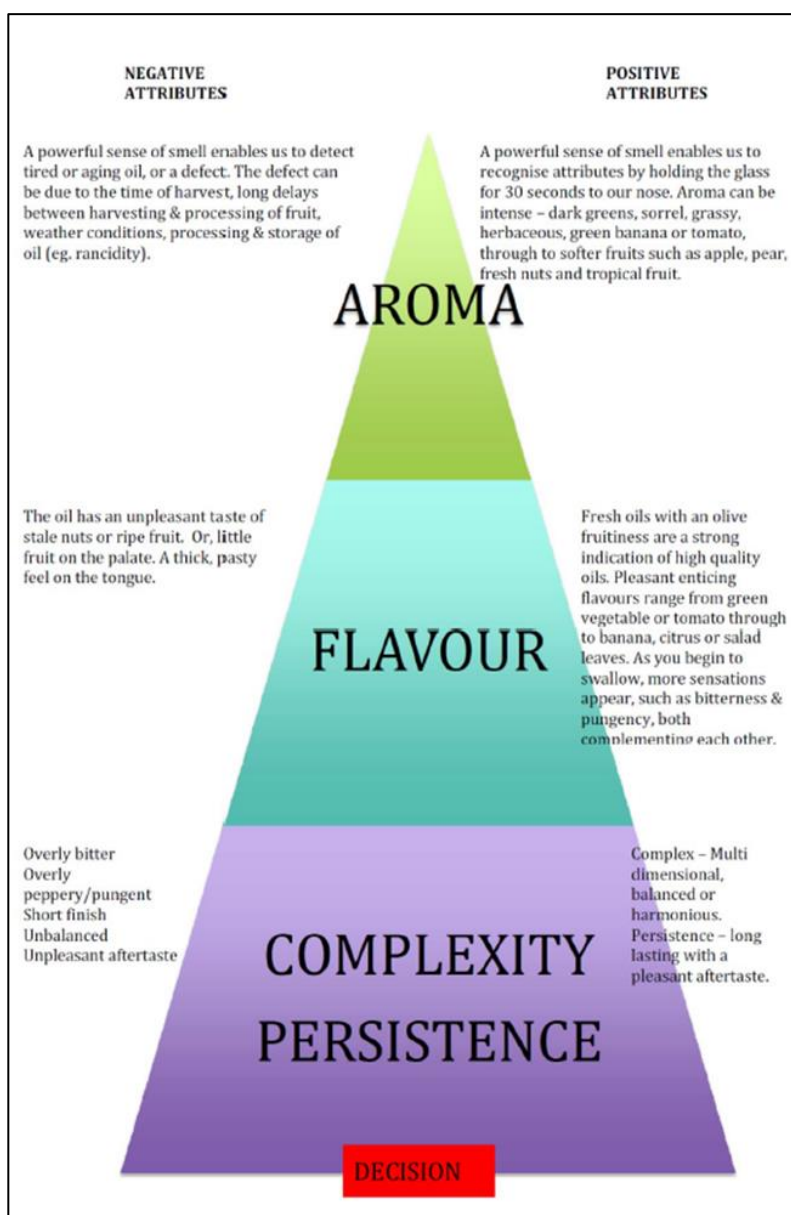
Keywords

Sensory training, TasteBook®, extra virgin olive oil (EVOO), table olives (TO), Australian Olive Association (AOA), growers, sensory panel, competition judges, Australian standard, workshops, consumer survey, olive products, IOC standard, OliveCare®, online workshops

Introduction

The Australian olive industry produces olives that are used to make oils (predominantly for human consumption, but also for a range of industrial purposes) and table olives. Edible olive oil is traded globally. The grade of olive oil is determined by numerous factors outlined in the The Australian Standard for Olive Oils and Olive Pomace Oils (**AS5264-2011**[®]). The Australian Standard AS5264-2011[®], states that olive oil is the oil obtained solely from the fruit of the olive tree (*Olea europaea* L.), excluding oils obtained using solvents or re-esterification processes and any mixture with other kind of oils. Triglycerides (TAGs) are the principal components (98.5%) of olive oil. The other 1.5% includes some interesting bio-active substances (phytochemicals) such as squalene and polyphenols which provide the positive health properties of extra virgin olive oil (EVOO). The Australian olive oil industry, while small on a global scale, has the benefit of being modernised and is thus able to produce a consistently high-quality product when compared to the traditional producing countries in the Mediterranean.

AS5264-2011[®] is a consumer focussed standard that incorporates chemical and sensory parameters for oil quality, authenticity and freshness for classification of EVOO. It is also of a higher standard than the International Olive Council (IOC) Standard that does not recognise freshness testing and allows lower quality oils with a reduced shelf life and organoleptic defects to be marketed as virgin olive oil. To maintain this consistent and superior quality of EVOO and table olive (TO) products in domestic and international markets, rigorous sensory evaluation and consistent knowledge of the sensory panel, growers, producers and competition judges must be continued with global standards and accreditation. As quality sensory testing depends on well trained, highly skilled participants, sensory panels need access to a pool of appropriately trained tasters to cope with challenges of workload, attrition and turnover of the panelists and competition judges in the volunteer sensory tasting panels. Sensory evaluation of EVOO is a complex process and dependent on the three key elements of olive oil: fruitiness (aroma), bitterness (taste) and pungency (tactile sensation). It is the ability to smell, taste and recognise these components on our palate that is critical from a sensory evaluation perspective. It is a continuous process of engaging our olfactory, gustatory and tactile sensations together to perceive the complexity and persistence of the olive oil on our palate and appreciating the oil for its value and sensory experience.



Historical background information about previous related investments and linkages to the current projects:

NSW DPI Australian Oils Research Laboratory (AORL) in Wagga Wagga has a long involvement in the Australian olive industry through numerous research projects as well as its commercial Oil Testing Service (OTS). The laboratory is NATA (ISO 17025) and ISO 9001:2015 accredited and undertakes regular internal and external audits to ensure compliance with relevant standards. The laboratory and the Australian Olive Oil Sensory Panel (AOOSP) are successfully accredited by the American Oil Chemists Society (AOCS) for chemistry and sensory evaluation. Until 2017, the AOOSP was also successfully accredited by IOC for sensory evaluation, for the last two years the AOOSP has lost the IOC accreditation and the AOOSP are working hard to get back their IOC accreditation through rigorous training program. The AORL has previously undertaken research projects investigating olive oil quality, including the effect of storage conditions and the effect of irrigation and harvest timing on olive oil quality. More recently, work was undertaken through Hort Innovation funding to develop a method for the determination of the smoke point in olive oil (HIA OL15000).

Rationale and significance for the olive industry:

This project was designed to ensure the Australian olive industry is equipped with the necessary skills to enable ongoing monitoring of the sensory attributes of EVOO and TO aligned with industry specifications for quality. The overall objectives of the project were to assist Hort Innovation and the Australian olive industry provide a series of integrated staged (beginner- intermediate-expert) training program to not only support maintaining the ongoing knowledge of International Olive Council (IOC) and American Oil Chemists Society (AOCS) accredited sensory panelists and nationally accredited competition judges, but also encourage new entrants and educate beginners on how to actively fit the quality, flavour and presentation of EVOO and table olive to match evolving and increasing market demands. The target audience for this project were EVOO and TO producers, levy payers, the Australian Olive Association (AOA), marketers, sensory panelists, EVOO and TO judges (beginners to experts) and enthusiasts, as well as the Hort Innovation research and marketing team.

In summary, the project outputs aimed to:

- provide regular tasting experiences and training to upskill an expanded pool of Australian EVOO and table olive judges.
- facilitate improved industry awareness, knowledge, skills and capacity in sensory assessment of EVOO, table olives and other olive products.
- enhance a culture of continuous improvement and excellence in the Australian olive industry.

OL17003 Team and Project Reference Group (PRG):

In order to deliver on the desired outcome a transdisciplinary approach for this project was taken. NSW DPI assembled a group of experts including sensory scientists, olive oil researchers, olive industry collaborators, including national and international experts to guide the project design and successful implementation and completion of the workshops and training. The project team was able to establish strong connections with industry stakeholders and various olive growers through DPI's ongoing relationships with the Australian olive industry which has been built on a strong track records of delivering research outcomes research track record and established industry contacts contributed to the successful outcome. This collaboration proved beneficial when delivering benefits to the project end-users, i.e. primary producers (olive growers and marketers) and new and existing judges and sensory panel members across Australia.

- Mark Hickey (Leader- Northern Horticulture, NSW DPI) (Mark retired from the role of Leader Northern Horticulture on 30th Sept 2019. He was a significant contributor to the project and the project leader is very grateful for his valuable time and input)
- Matt Adkins (Incoming Leader- Northern Horticulture, NSW DPI) (Matt joined the project when he commenced his role as Leader Northern Horticulture (NSW DPI) on 11th Nov 2019)
- Michael Thomsett (Australian Olive Association- AOA President)
- Jemma O'Hanlon (R&D Manager- Hort Innovation)
- Elizabeth Bouzoudis (Secretary, AOA)
- Claudia Guillaume (General Manager- Technical, Boundary Bend Limited; Laboratory Manager, Modern Olives, Victoria)
- Shane Cummins (National Head Judge- Extra virgin olive oil, Australian International Olive Awards)
- Isabelle Okis (Olive grower, Yaribelle Braes Olive Farm- Western Australia)
- Fiona Makowski (Olive grower, Freshfield Grove, Tasmania)
- Michelle Wirthensohn (University of Adelaide, National Head Judge- Table olives, Australian International

Olive Awards)

- Kent Hallett (AOA Board of Directors, South Australia)
- Michelle Freeman (Chief Steward- Table olives, Australian International Olive Awards)

Critical success factors:

- Industry and stakeholder involvement throughout the project
- Experienced NSW DPI project team and its continuous success with its effective “sensory training and panel maintenance” program
- National and international networks to enhance collaboration and providing access to information.

Impediments to adoption:

- As this will be new knowledge to the Australian olive industry, the correct information will need to be communicated effectively via industry channels, otherwise the outcomes may not be adopted or applied appropriately
- Detailed costing, training and communication plan need to be carried out for effective sensory training of the broader Australian olive industry stakeholders.

As leader and facilitator of this Project, NSW DPI liaised with AOA to communicate and extend outcomes of levy funded research and development to Australian Olive Levy Payers in a variety of ways to enhance their skills, capacity and knowledge. NSW DPI, with the continuous support from AOA disseminated in a timely manner, information that provided the best opportunities for growers to avail themselves of existing and emerging research which will help them to adopt best sensory training materials and practices for their business. NSW DPI teamed with AOA to avail AOA’s industry network along the whole supply chain which enabled NSW DPI to deliver project services so that the project effectively integrated with and leveraged off other related investments made by Hort Innovation (and other research organisations).

The AOA’s support of state and regional grower groups and a history of coordinated extension activities at regional and national level also provided an existing framework and relationships for successful technology transfer processes and access to reach various olive growers. Success was measured through shared interest, attendance and interaction of growers at various face-to-face National TasteBook® workshops at various states. Every participant was provided with pre and post workshop questionnaire to understand individual expectation in learning and monitor the performance of the workshop meeting those criteria, respectively. Significant numbers of olive industry stakeholders participated in various modes of training, via face-to-face and online webinars. At appropriate times, growers were surveyed to gain insight into the value of the information and the various methods of delivery. Previous projects between the NSW DPI and Hort Innovation have demonstrated the importance of providing clear practical outcomes for industry. Regular communication with the project team, industry stakeholders and collaborators are important to ensure the successful delivery of practical outcomes. Because of the uniqueness of this project of delivering a detailed sensory training program, the knowledge and expertise gained from this completed project can be utilised to train next generation judges and sensory panelists for Australian olive industry.

Methodology

To ensure effective delivery of project outputs effectively, the project was divided into 3 stages: a gap analysis to define expectation and training requirements, a series of integrated training in various formats and extension and outreach via final survey, report and recommendations. This is detailed in Figure 1.

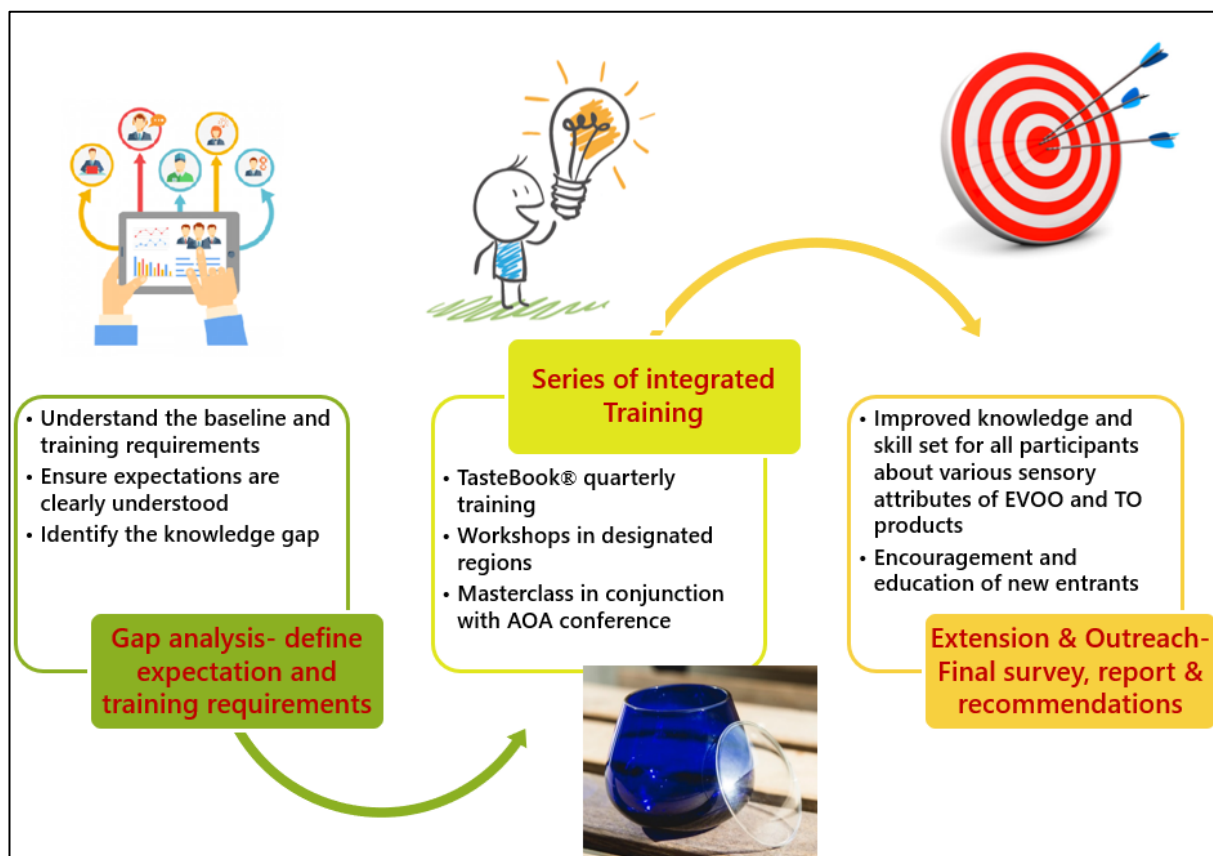


Figure 1: Various project stages

Several activities were undertaken during the one-year project to meet the requirements of the above-mentioned stages, all these activities are documented below.

Activity 1: Raising the awareness of sensory evaluation for the Australian olive industry via industry consultation.

To be certain of achieving the first activity, the project leader created the PRG with several Australian olive industry experts to understand how to raise the awareness and importance of sensory evaluation within the Australian olive industry. In collaboration with the AOA, the project leader decided to create pre-workshop and post-workshop questionnaires to be distributed to every participant attending the face-to-face 8 National TasteBook® workshops in various states. The pre-workshop questionnaire provided a clear understanding about participants' expectations from the TasteBook® workshop and set the tone of the workshop program well (Figure 2). AOA has agreed to provide continuous support to the project leader and NSW DPI and allowed to use their proprietary databases reaching all levy payers in the Australian olive industry (please see the letter of support from AOA attached in Appendix 1). Questions in both questionnaires were designed to elicit information pertaining to stakeholders' existing understanding and sensory perception of EVOO and TO products, as well as enquiring about the type of training requirements needed to enhance their awareness, knowledge and skillset.



Pre-workshop Participant Survey

*Australian Olive Industry Sensory Training –TasteBook™ & OliveCare® Program
Campbell Town – 29 February 2020*

Thank you very much for participating in one of the TasteBook™ and OliveCare®- Australian olive industry training programs. We would love to know about your expectations from today's workshop; so that we can better create workshop materials beneficial for you. We hope you could fill out this pre-workshop survey and hand it over to the organisers.

Your name (optional): _____

Which of the following describes you well? (Please circle the option)

Grower/producer	Olive oil judge	Processor	Olive industry professional
Researcher/academic	Consumer	Olive oil enthusiast	Other

If you have selected other, please explain: _____

Q1. What is your expectation from the TasteBook™ workshop?

Q2. What is your expectation from the OliveCare® workshop?

Thank you so much for your time and participation.

1 | Page

Figure 2: Pre-workshop survey questionnaire used in National TasteBook® workshops

Activity 2: Sensory knowledge maintenance of existing olive oil panel members and competition judges – the TasteBook® initiative.

TasteBook® is a sensory training initiative which shares the experience of appreciating, describing and understanding the quality of EVOO and TO from a nationally standardised perspective. This initiative is the first of its kind in Australia. TasteBook® was developed and owned by the AOA (please see the letter of support from AOA attached in Appendix 1); the project leader co-led the initiative after the inception of this concept. It provided a unique opportunity to stimulate conversation within the industry on EVOO and TO quality, by bringing together stakeholders (AOOSP members, competition judges in olive oil show-judging, growers, producers and marketers) to assess and evaluate samples. Collectively, the participants were encouraged to provide valuable insights on all characteristics of the EVOO and TO quality, as well as sharing an understanding of how to achieve product excellence for Australian olives and associated oils.

Immediately after inception of the concept, the first few rounds of TasteBook® were conducted online (before the current project started). The aim for online/virtual TasteBook® was to bring together sensory panelists, olive oil show judges, growers and producers to assess and evaluate the same samples comfortably in their own homes, wherever they are. They can then provide valuable insight for describing the oil and the olives, as well as the style, quality and potential uses of the products by filling up the SurveyMonkey form. Through this initiative, the aim was to expose industry participants to regular sensory experiences and palate calibration for olive products both nationally and internationally, to improve their understanding of how to appreciate and judge these products and achieve consistent product quality and excellence for Australian EVOO and table olive products.

TasteBook® is a component of a broader professional development platform that:

- provides regular tasting experiences and training to upskill an expanded pool of Australian EVOO and TO judges within the AOA judge's accreditation framework.
- improves industry awareness, knowledge, skills and capacity in sensory assessment of EVOO, TO and other olive products.
- enhances a culture of continuous improvement and excellence in the Australian olive industry.
- increases exposure of the Australian olive industry to international events and expertise.

Activity 3: Sensory panel training for new entrants.

The IOC has developed a methodology for training and assessing new entrants to join a "Classification Sensory Panel". The training involves recognising, identifying and classifying the extra virgin olive oils' positive and negative attributes. Tasters who successfully complete the training and pass the IOC assessments are invited to join the AOOSP. The AOOSP is the only panel in Australia that was accredited by both the IOC (until 2017) and the AOCS for sensory classification of olive oil; it is also part of the NSW DPI OTS. The NSW DPI conducted these training sessions following the IOC methodology to train new tasters to classify EVOO in early 2020.

Activity 4: Improved knowledge of table olive sensory descriptors for training and consumer communication.

Table olive (TO) production for the domestic market has a significant opportunity for growth in Australia. It could provide a profitable opportunity for smaller scale producers, especially if market development is well managed. Development of a sensory language for using in consumer communication to describe the attributes of TOs to advance the market was achieved by combining an overview of descriptors currently used by the TO sector to describe the physical and sensory attributes of table olives with the other sensory and TasteBook® training material to form a comprehensive sensory language workshop handbook. The project leader focused on developing participants' skillset in understanding, perceiving and appreciating various table olive attributes to ensure broader Australian table olive growers have better knowledge in communicating their product characteristics to consumers. There is a wide classification of table olives according to Australian International Olive Awards (AIOA) guidelines (Figure 3) and this reflects the complexity in translating various sensory attributes of table olives and describing them effectively. Hence, there were focused time for table olive sensory training and hands-on tasting to reinforce the learning from the workshops. Every face-to-face TasteBook® workshop had more than five different classes of table olive (Figure 3) samples for tasting and participants were asked to bring their own produce if they grow table olives and willing to share with the group.

	Class 11: GREEN OLIVES Plain, whole olives only, no added flavours. In Brine.		Class 16: DRIED OLIVES Sun, salt and heat dried olives, including spiced and pitted
	Class 12: MEDLEY of OLIVES Plain, whole olives only, no added flavours. In Brine.		Class 18: SPECIALTY OLIVES Spiced and specially treated olives with declared country of origin ingredients
	Class 13: OLIVES TURNING COLOUR & BLACK OLIVES All varieties EXCEPT KALAMATA OR California ripe processed. Plain whole olives only, no added flavours. In Brine.		Class 18(a): – flavoured WITHOUT garlic and/or chilli. Class 18(b): – flavoured WITH garlic and/or chilli.
	Class 14: KALAMATA OLIVES Plain whole olives only, no added flavours. In Brine.		Class 18(c): PITTED OR STUFFED OLIVES Olives pitted or stuffed with declared country of origin ingredients.
	Class 15: WILD OLIVES Small in size, variations in colour permitted, whole olives only. In Brine.		Class 19: TAPENADES Olive tapenades – various recipes.

Figure 3: Australian International Olive Awards (AIOA) table olive classification

Activity 5: Improved understanding of sensory quality of olive oils: Review of past AOOSP sensory panel classification

A review of the data from previous sensory panel classifications was conducted to identify the most relevant trends concerning the sensory attributes for the panel and how the panel varied in their rating's specific attributes. This review was important as to understand how the panel is performing as a whole and to monitor individual panel performance. As AOOSP is the NSW DPI commercial testing service, only selected data from October to December 2019 were analysed and plotted in graphs for better visualisation of the results. Three key features of EVOO, fruitiness, bitterness and pungency were analysed for the AOOSP for a month. Every member's results (mean/median) was plotted against overall panel mean/median to explore how the panel performed and who were the outliers to identify training needs. The detailed graphs were available in the "Outputs" section in the later part of this report.

Activity 6: Master classes and workshops on EVOO and TO judging and training: Understanding preferences and increasing awareness of using EVOO and TOs among general consumers.

A series of workshops and master classes were planned throughout this project to encourage new entrants and interested general consumers to correctly assess EVOO and TO and increase awareness about these products in everyday culinary usage.

The content included, but not limited to:

- the olive oil production process from tree to table
- olive oil tasting skills
- the quality criteria of EVOO and TO
- the positive sensory attributes and common defects
- EVOO sensory analysis and grading methodology
- characteristics that distinguish EVOO from other oils
- ways to identify EVOO from mislabeled oils

The project leader conducted a series of consumer tasting workshops, sensory master classes, "Young Judges Training" program in South Australia, including a consumer survey throughout this project not only to raise the awareness of the various sensory attributes of Australian olive products among general consumers, but also to promote the quality of the EVOO and TO.

Activity 7: Extension and outreach

High levels of communication of evidence-based findings with olive growers and industry stakeholders was achieved using platforms available through NSW DPI and the AOA quarterly magazine "Australian and New Zealand Olive grower and Processor". Communication of findings to relevant stakeholders was achieved through a range of fora including workshops, articles, fact sheets, social media posts, conference presentations and regular contributions to olive industry communications. Peer-reviewed scientific manuscripts will be published in the coming months (by April 2022) to effectively disseminate the results with national and international scientific community.

Activity 8: Project legacy/sensory training program business model evaluation

The objective is to provide recommendations on an appropriate business model, to enable ongoing sensory training of olive industry stakeholders on a cost-recovery/commercial basis. The business model was developed utilising the knowledge from the actual financial record/statements from the current project. This data was then converted into several pricing modules including the cost of running large groups to virtual/digital programs. The project leader has identified several ways of delivering training program. With various training delivery models, there are several variables which can positively/negatively impact the final budget and hence the registration cost per participant. All the calculations included in this financial model are still an estimate and can vary depending on the training program, delivery mode, location, presenter/s, catering, printing and postage of samples.

Outputs

The Program had several major outputs associated with its integrated staged training programs:

- A series of training program implementing National TasteBook® program for Australian olive industry stakeholders (growers/producers/processors), olive oil panel members and national competition judges
- Sensory panel training for new entrants
- Developing and defining able olive sensory descriptors for training and consumer communication
- Review of present sensory panel performance for sensory classification
- Master classes, consumer workshops, consumer tastings and survey, Young Judges Training Program in South Australia on EVOO and TO judging and training
- Project legacy/sensory training program business model evaluation

A series of training program implementing National TasteBook® program for Australian olive industry stakeholders (growers/producers/processors), olive oil panel members and national competition judges

Maintenance of sensory knowledge for existing olive oil panel members and competition judges was achieved through the involvement of the 'TasteBook®' initiative. TasteBook® is a sensory training initiative, the first of its kind in Australia, which shares the experience of appreciating, describing and understanding the sensory quality of EVOO and table olives from a national perspective. TasteBook® workshops were provided as either face-to-face workshops or as a virtual workshop which allowed for remote participation. The program brought together sensory panellists, olive oil show judges, growers and producers to assess and evaluate the same samples at their home comfortably wherever they are (for the TasteBook® Post rounds) or at various state locations for face-to-face interactions and workshops. The participants were able to provide valuable insight for describing the oil and the olives, as well as the style, quality and potential uses of the products. Through this initiative industry participants and stakeholders were exposed regularly to sensory experiences and palate calibration for olive products both nationally and internationally. This regular exposure helped to improve their understanding of how to appreciate and judge these products and achieve consistent product quality and excellence for Australian EVOO and table olive products. A summary of both workshops details is provided in the Outcomes section.

8 rounds of face-to-face TasteBook® workshops completed at:

- Waite Campus, Adelaide, SA (24th May 2019 & 6th March 2020)
- Geelong, Victoria (14th June 2019)
- Wagga Wagga, NSW (30th June 2019)
- Mt Hawthorn, WA (18th Aug 2019)
- Wangaratta, Vic (31st Aug 2019)
- Lovedale, Hunter Valley, NSW (27th Oct 2019)
- Campbell Town, Tasmania (29th Feb 2020)

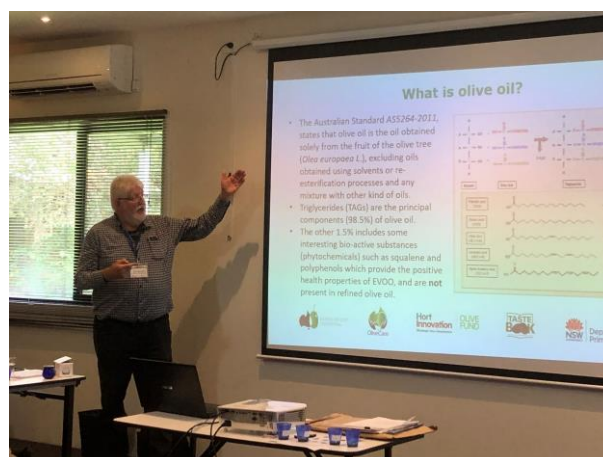
3 rounds of virtual TasteBook® Post rounds completed at:

- Round 5- focus on single varietal EVOO Picual from award winning Australian and New Zealand groves
- Round 6- focus on flavoured oil from award winning Australian olive groves (continuing)
- Round 7- focus on single varietal table olive Kalamata from various olive groves in Australia (continuing)

A total of 171 participants attended eight face-to-face National workshops and a total of 45 participants completed three TasteBook® post rounds (TasteBook® post rounds 6 and 7 are still active and registered participants are still completing the online assessment and SurveyMonkey forms, the final webinar date to discuss the results are 26th May 2020). Face-to-face workshop participants represented a wide range of olive industry stakeholders, from growers/producers to consumers, olive oil panel members to national competition judges, from olive industry professionals to academic/researchers. The experience and knowledge of the participants also varied depending on their association with the EVOO and TO industry, or if they have been participating in either show-judging/competition or part of a sensory panel. It was a great experience for the project leader to interact with these enthusiastic participants and share the knowledge for facilitating a successful training program. Individual face-to-face workshops at various locations also saw growers/producers bringing their own produce to share with the group and discuss various factors of growing EVOO and TO which positively/negatively affect the sensory

quality of the finished products and thus consumer acceptance.

The feedback from these face-to-face workshops were overwhelmingly positive in relation participants' skill development, understanding of various sensory attributes, knowledge sharing and networking opportunities with other participants, tasting a wide range of EVOO, defective oils and reference materials and flavoured oils from Australia, New Zealand, Spain and Italy. In the current project format, both face-to-face and online TasteBook® workshops/webinars were undertaken to continue the legacy of AOA and facilitate more interaction and sharing knowledge together. The project leader decided to conduct minimum one face-to-face workshop in each state (based on demand) and planned to hold the workshop in a location where there are more olive growers and interest, not necessarily in a Metro city. It was decided to hold eight national face-to-face workshops and three online webinars (as continued from the previous format). The online TasteBook® version helped maintaining a focus area of learning such as single varietals of EVOO and TO from different locations, tasting various award winning flavoured oils to name a few. Several Australian olive industry experts were also invited to join the project leader as "Guest speakers", so that participants can hear not only from those industry experts, but also share the knowledge within the group well. Some notable mentions were Jamie Ayton, Claudia Guillaume, Dr Michelle Wirthensohn, Trudie Michael, Isabelle Okis, Prof Andrew Markides, Jamie Ayton, Shane Cummins. The project leader shared the face-to-face TasteBook® workshops with Peter McFarlane, so that together both can deliver project outcomes from OL17003 and OL17006, respectively.





SA May workshop attendees



Geelong workshop attendees



Wagga Wagga workshop attendees



WA workshop attendees.



Wangaratta workshop attendees



Lovedale workshop attendees



SA workshop attendees March 2020



Campbell Town workshop attendees

Guest Speakers



Dr Michelle Wirthensohn



Trudie Michels



Peter McFarlane

Geelong Guest Speaker



Claudia Guillaume

Wagga Wagga Guest Speaker



Jamie Ayton



Dr Andrew Markides



Isabelle Okis



Briony Liebich

Wangaratta Guest Speaker



Shane Cummins



Helen Taylor



Karen Pridham



Stephen Mitchell



Gerri Nelligan

Sensory Panel training for new entrants

Sensory panel training for new entrants was conducted in March 2020, after NSW Biosecurity appointed their new Sensory Panel Leader for Australian Olive Oil Sensory Panel (AOOSP) in January 2020. Despite social distancing restrictions due to COVID-19 a full 12 session program was offered to the participants. The training of interested participants is one of the key components of developing and maintaining a sensory panel. The training consists of various sessions to ensure the panel leader/training facilitator is following IOC accredited methodology. A detailed understanding of key sensory attributes of extra virgin olive oil such as fruitiness, bitterness and pungency at various levels must be achieved by individual members. One of the objectives of the panel was to maintain a lower value of coefficient of variation (CV) among the panel members; hence rigorous training was maintained to ensure individual differences and variation are kept minimum. Paired comparison test and threshold testing were also conducted to check how new members were able to understand and perceive various defects in olive oil. During the training, various references were provided to the trainees, such as fresh herbs, spices, nuts, defect reference samples, award winning olive oils, several single varietal oils, imported oils from different countries (e.g. Spain, Italy, Argentina) and defective olive oils to ensure the sensory descriptors coming to the trainees' mind were validated against a known reference.

Developing and defining able olive sensory descriptors for training and consumer communication

The TasteBook® initiative that delivered maintenance of sensory knowledge for existing olive oil panel members and competition judges was also used for improving the knowledge of table olive sensory descriptors. The word cloud here reflects the complexity in translating various sensory attributes of table olives and describing them effectively as shown in the wide classification of table olives according to Australian International Olive Awards (AIOA) guidelines. Hence, there was focused time for table olive sensory training and hands-on tasting to reinforce the learning from the workshops. Every face-to-face TasteBook® workshop had more than five different classes of table olive samples for tasting and participants were asked to bring their own produce if they grow table olives and willing to share with the group. There was also growing demand from the participants in face-to-face workshops to spend more time on table olive descriptors, growing practices and if possible, defects from different TO classes as captured in the post-workshop questionnaire feedback forms (Appendix 5). Various criteria used in defining table olive descriptors for judging from appearance, aroma, taste, flavour, texture and aftertaste were discussed in detail during all 8 face-to-face workshops and masterclasses. Work still needs to be done to develop a consistent format of defining specific table olive descriptors depending on the individual class from AIOA table olive classes and share the same with national competition judges. As there is a growing demand within Australian table olive industry to learn more about specific cultivars and their sensory attributes, this will culminate into much better Australian table olive quality in the future.

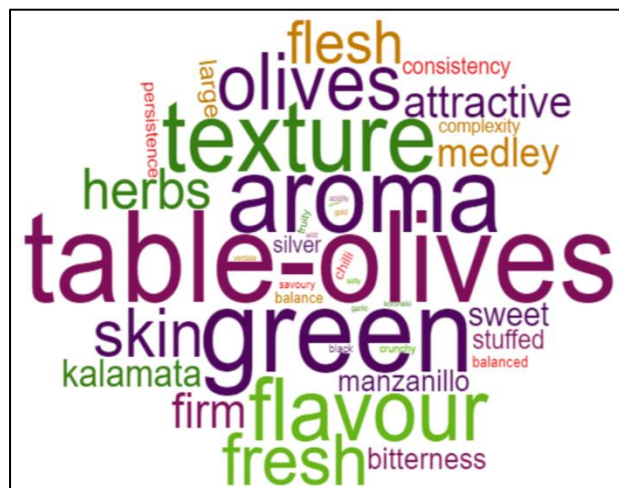


Table olive descriptors for Judging

SKIN: The skin of the fruit should be fine, smooth and not wrinkled, yet elastic and resistant to handling damage.

FLESH: Should be firm but not woody or granular. Green olives should have firm, crisp flesh, ripe or black olives will have softer flesh due to the fruit being more mature than green olives, however it shouldn't be soggy or flabby. The flesh should separate easily from the stone.

BLEMISHES: Blemishes should be absent however some white spots on green olives are natural, others such as gas pockets or blistering are caused by processing, and organisms.

COLOUR: Green olives should be bright green to strawy green colour. Some dulling may occur after several months in brine. Lye treated green olives are very bright green. Olives turning colour should be pale pink, and black olives vary from dark pink to black or winey colour.

BITTERNESS: The olive shouldn't be bitter to taste but some bitterness can be balanced by the amount of saltiness and olive flavour.

SALTINESS: The level of salt governs the flavour of the olive and must be balanced with the bitterness and acidity.

FLAVOUR: the olive should have an appealing fruit flavour, which for green olives often is a typical fermentation taste but retaining 'olive' character, and for black olives is a stronger olive flavour. There should be no 'off' aromas such as rancid, cheesy or faecal aromas.

Review of present sensory panel performance for sensory classification

AOOSP is a commercial oil testing service provided by NSW DPI for both sensory and chemistry of olive oil to the industry. Monitoring sensory panel performance is one of the important responsibilities of a panel leader. As a panel, the overall median/mean is the key value and ideally individual panel member need to be closer to the panel median/mean. If one or more panel members are deviating from the mean value of any key sensory characteristics, then more training needs to be organised for that individual panel member, so that less numbers of outliers can be determined. Due to the confidential and commercial aspects the project leader is unable to present any detailed analysis currently. However, Figure 4 demonstrates the difference in a specific sensory attribute for two specific months and how the panel leader collects and reviews the data. All the panel members' names were coded in different alphabets to facilitate anonymity. There was a greater variability in panel members' agreement in scoring the "fruity" attribute for the month of November 2019 (purple colored graph), however with focused training the panelists were more consistent in scoring and assessing the "fruity" attribute in December 2019 (blue colored graph).

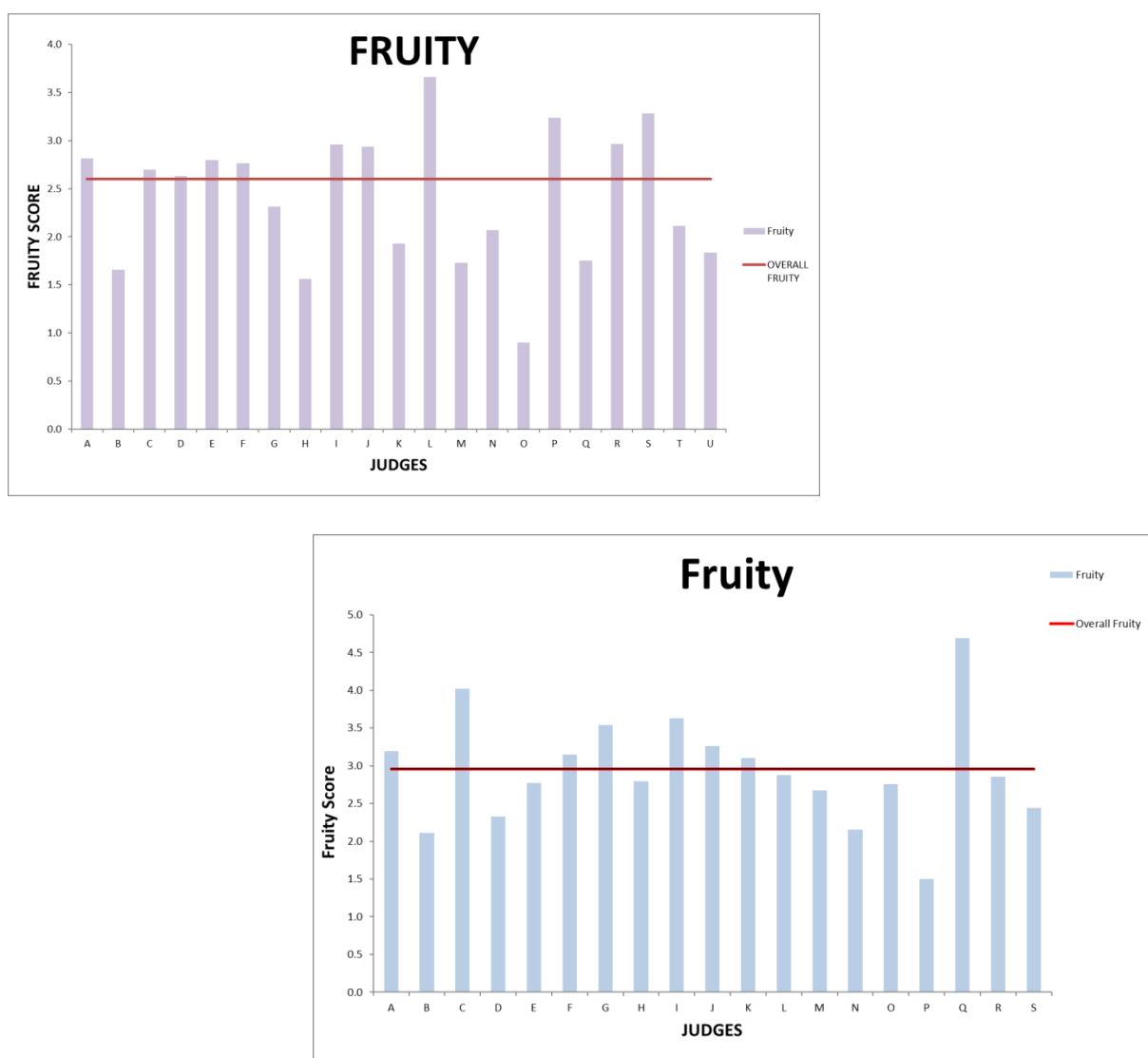


Figure 4: AOOSP sensory panel feedback for November and December 2019 (*Judges O, Q & U attended less than five sensory sessions in the month of November*)

Master classes, consumer workshops, consumer tastings and survey, Young Judges Training Program in South Australia on EVOO and TO judging and training

There were several initiatives taken to ensure the general consumer groups in various locations of Australia received further training to improve understanding and awareness of positive and negative sensory attributes of EVOO and table olives. A summary of the activities undertaken by the project leader are:

- Young Judges Training program in South Australia in Aug 2019-** 72 high school students and 12 teachers from 5 different SA high schools were shortlisted and participated in this 2-day intensive training program. Every session was scheduled for 3 hours and focused on fundamentals of sensory science, understanding of EVOO sensory attributes, training on various sensory attributes and judging on the same to differentiate between Gold medal winning EVOO from an EVOO available in the supermarket. During this 3 hour training, students and teachers also smelled and tasted various reference materials such as fresh herbs (rocket, coriander, parsley, salad mix, mint, rosemary, ginger), fresh fruits and dry herbs and spices in whole and powder forms (black pepper, white pepper, mustard, rosemary, chili flakes) to name a few. 5 high schools participated were Riverton High School, Nuriootpa High School, Horizon Christian School, Birdwood High School and Urrbrae High School. Kent Hallett and Michelle Freeman were also involved in organising the logistics and coordination of the whole program. A detailed report of this Young Judges Training program was published in Australian & New Zealand Olivegrower and Processor quarterly magazine and a PDF copy is included in the Appendix 8 for reference.


- Consumer survey and tasting at Wollongbar Primary Industries, NSW DPI-** In conjunction with the celebration of 125 years anniversary of Wollongbar Agricultural Institute Open Day on 24th August 2019, a consumer survey was completed with 71 general consumers. Detailed results of the survey and a copy of the survey questions are available in Appendix 9. The aim of the consumer survey was to explore consumer understanding and awareness of olive oil and table olive sensory attributes followed by knowing their consumption and purchase frequency and usage. As it was an open day, the project leader acquired a tasting booth to conduct both the survey and tasting. SurveyMonkey® platform was used to capture participants' survey in an iPad and only selected questions were asked. Because of the time constraints and the short attention span of the floating crowd, this opportunity sampling helped the project leader to capture important feedback from the participants. Only willing participants who could spend approximately 10 minutes of their time for survey and tasting were selected. A consumer tasting was held simultaneously to ensure anyone interested in tasting EVOO, TO and flavoured oils from various states can taste and experience the positive and negative sensory attributes along with appreciating Gold medal winning Australian olive products. A total of 120 participants tasted various olive products, no tasting sheets were completed as part of this tasting activity.
- Masterclass at Hobart in conjunction with the Hobart Fine Food Show on 28th July 2019-** This session was first of its kind in Hobart Fine Food show and was open to any judges and general consumers who are enthusiastic about understanding and appreciating various sensory attributes of olive oil and table olives. A detailed report of this Masterclass was published in Australian & New Zealand Olivegrower and Processor quarterly magazine and a PDF copy is included in the Appendix 8 for reference.
- Masterclass with NSW DPI Horticulture colleagues-** To improve the awareness and knowledge about EVOO and table olives and what to look for in those products, the project leader conducted a 3-hour session on 19th November 2019. This workshop started with a small presentation on sensory fundamentals followed by tasting of various Australian olive products including Gold medal winning products from 2019 shows. 20 participants were present for the 3-hour session and had a hands-on sensory experience and interaction with both EVOO and TO products.

• **Olive oil and table olive tasting session at Terrigal, Central Coast on 12th March 2020 with Gosford Beef Steak and Burgundy team members-** A total of

21 members attended the session for 2 hours to understand the fundamental skills of sensory evaluation followed by tasting of 5 different EVOO (including flavoured oils) and 6 TOs. Both table olives and olive oils represented a diverse range of sensory attributes to be experienced by the participants and all the samples were from Australia and New Zealand, winners of several Gold, Silver and Bronze medals in various shows. A full report of the tasting session will be published in the Gosford Beef Steak and Burgundy April-May 2020 Newsletter. The project leader coordinated the tasting session with Mr. Doug Hocking, President of Gosford Beef Steak and Burgundy team.



Terrigal workshop attendees

• **TasteBook® Live workshop at 2019 Australian Olive Association (AOA) National conference, Albury-** The

project leader was invited to conduct a TasteBook® Live workshop with 20 industry participants on 19th October 2019. It was a successful 3-hour session on a Saturday afternoon, where participants enjoyed a wide range of Australian olive products including tasting and smelling a range of defective oil and reference samples. The interaction among the participants were lively and the post-workshop survey feedback was positive. Participants' profile from this workshop (Figure 5) and the results of the survey feedback are presented below. It is important to mention that participants' profile category does not necessarily add up to the total number of participants, for example, the same grower was also a consumer or an olive industry professional.



Albury workshop attendees



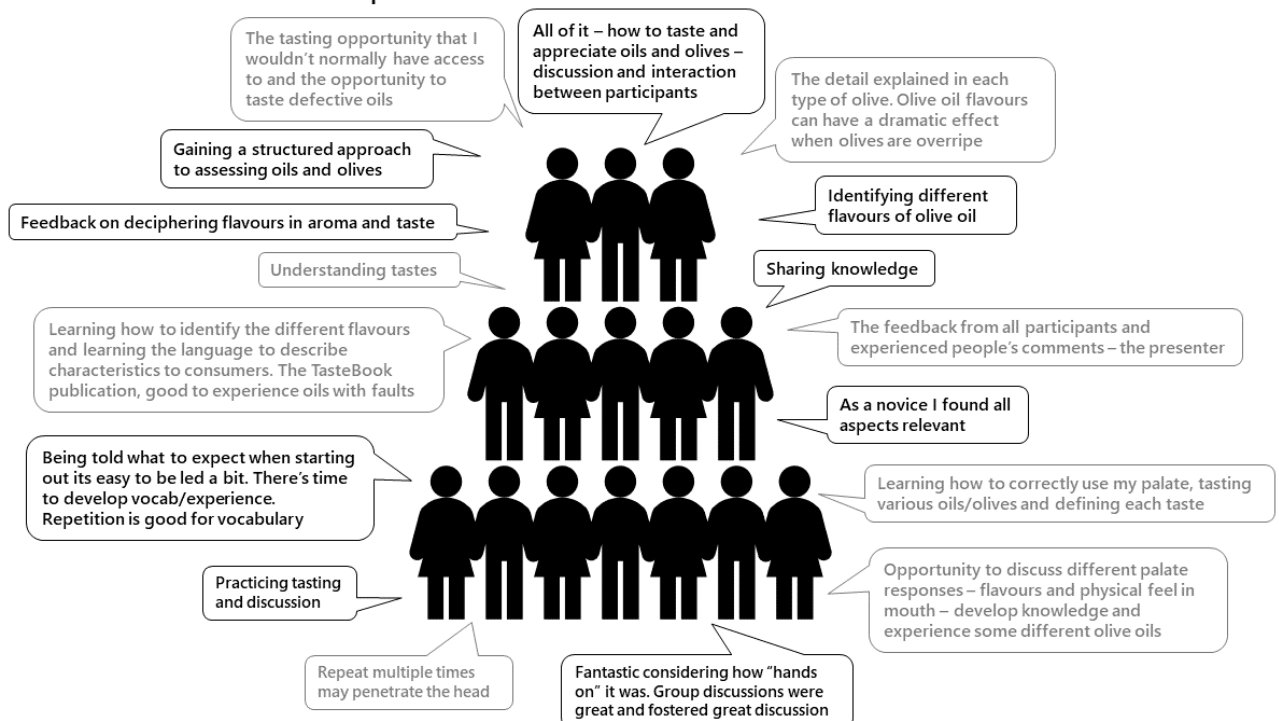
Figure 5: Participants' profile in Albury workshop

Expectation from the TasteBook® workshop are captured below in participants' own language while they completed the pre-workshop questionnaire, 18 participants completed the pre-workshop questionnaire. The TasteBook® post-workshop questionnaire provided a detailed understanding of how the project leader could meet their expectation from this short training program. All the questions involved in the post-workshop survey and their answers are provided below in participants' own language.

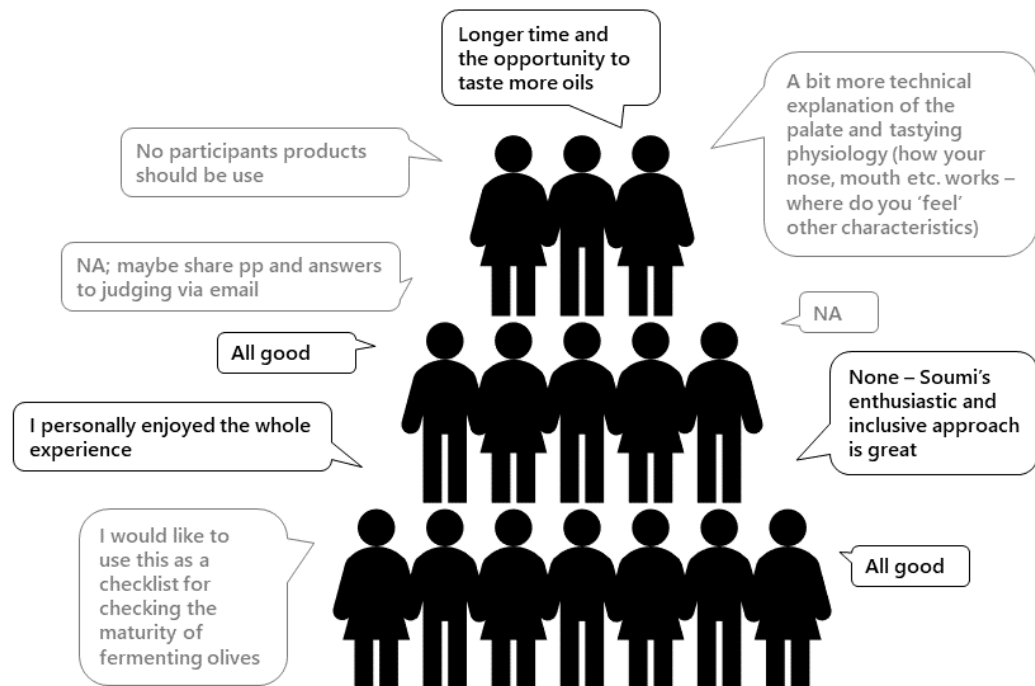
Expectation from the TasteBook® workshop?



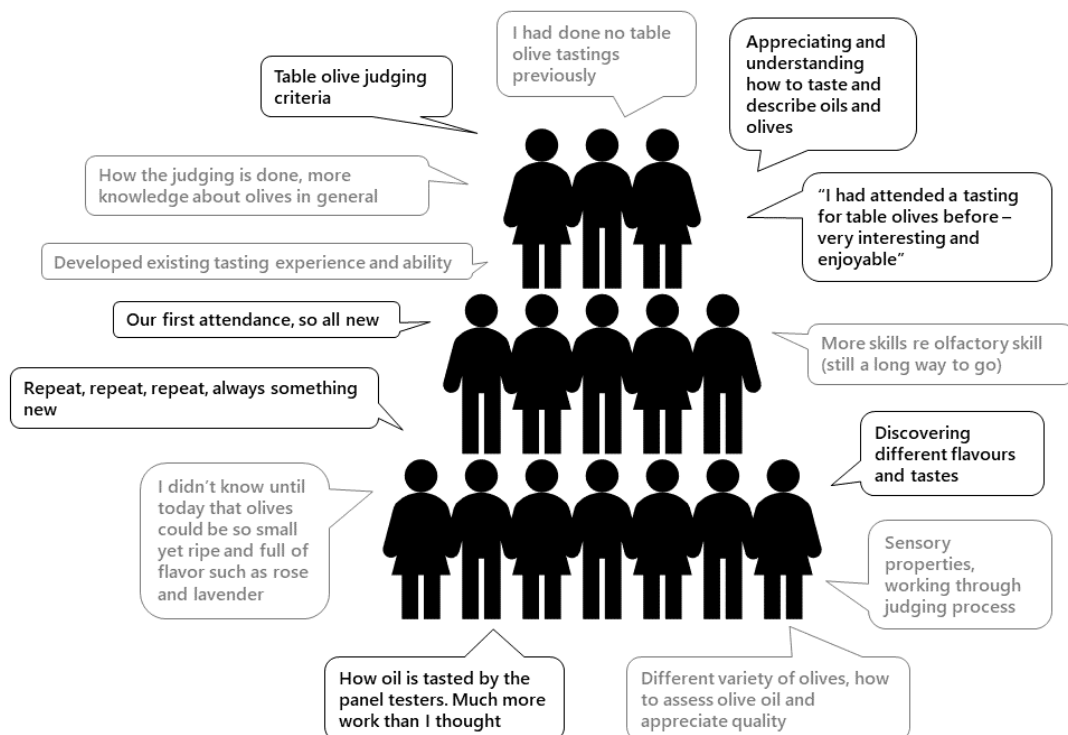
What was the most valuable part of the TasteBook® session?



What aspect of the TasteBook® workshop could be improved?



What new information did you learn from today’s TasteBook® workshop?



Project leader comment: The feedback from the participants were overwhelmingly positive and it was evident that mostly their expectations from this training program and Live workshop were met. Only 8 out of 20 participants have taken part in previous rounds of either TasteBook® Post rounds or a face-to-face workshop; 2 participants attended the Young Judges Training Program at Birdwood High School in South Australia. It was great to see more new participants came forward and attended the session. No strong negative feedback from the participants were observed except for demand for more time on the workshop especially for a longer table olive session, more technical explanation and more opportunity to tasting products.

- **“Olive sensory workshop- learn about the sensory attributes of some of Australia’s best olives and oils”-**

Pre-Congress workshop on “Mediterranean diet: from evidence to implementation workshop” on 9th February 2020 at World Congress on Oils and Fats (WCOF) and ISF Lectureship Series in 2020, Sydney. Both domestic and international audience were present during this one-hour hands-on tasting experience. Because of the shorter time, the project leader selected a total of 6 Gold medals winning products from EVOO (2), flavoured oil (1) and table olives (3) from 2019 AIOA shows to promote award winning Australian olive products with the global audience. It was heartening to see that, some participants who never had put olive oils directly on their palate, were encouraged to taste both EVOO and flavoured oils like competition judges and enjoy the sensory experience. No formal feedback form or sensory questionnaire were provided to the participants, rather, it was an open informal discussion and participants were encouraged to share their thoughts and sensory experience with the project leader and the broader audience. The feedback from the workshop was positive and a report of this olive sensory workshop at WCOF was published in March 2020 Australian & New Zealand Olivegrower and Processor quarterly magazine and the reference is included in the Appendix 8.



Project legacy/sensory training program business model evaluation

A full report on the business and financial model evaluation has been submitted separately with this final report (in a PowerPoint presentation, Appendix 15) and the project leader has marked it confidential. Not surprisingly the breakeven cost to conduct various formats of TasteBook® training varied depending on whether it was a face-to-face meeting or virtual and, when face to face, the location of the training i.e. capital city versus regional. A summary of these various modes of recommended training delivery models and the factors leading to variation of the cost differences are provided in the presentation.

Table 1: Deliverables (Outputs) summary

Deliverables	Status	Comments
Guidelines and recommendations to facilitate the development of a sensory training program for identified industry stakeholders and olive oil enthusiasts	✓	The project leader Dr Soumi Paul Mukhopadhyay, in collaboration with AOA and other project reference committee members, developed a guideline and recommendation to include various olive industry stakeholders in this training program. To ensure every participants' feedback is included and the training program is inclusive, a pre-workshop survey questionnaire was developed to capture the expectation of the participants signing/registering for the face-to-face workshops. The expectation was important to take into consideration as the project leader can cater to the individual workshop along the line and deliver workshops which can benefit the participants. At the end of every workshop, a post-workshop survey questionnaire was also created to ensure participants can provide anonymous feedback about how well/not well the workshops went to contribute towards their knowledge and skill development in the areas of sensory evaluation of Australian olive products. Every feedback form was important towards the final success of not only the training program, but also for the complete project. The training program was aimed at the following stakeholders in Australian olive industry, but not limited to: • Grower/producer • Olive oil judge • Processor • Olive industry professional • Researcher/academic • Consumer • Olive oil enthusiast • Others- they can be anyone from chef to nursery grower, magazine editor- who would like to know more about Australian olive products and appreciate a very good oil from a defective oil To make the whole program and project successful and consistent, the project leader was in regular contact (email and telephone) with project team members and project reference committee members to discuss project implementation issues, stakeholder communications and project outputs. She also consults with relevant growers from various states and Trudie Michael, Chief Steward, Australian International Olive Awards (AIOA) on an 'as needed' basis, regarding technical issues arising from engagement with olive growers and other supply chain partners.
A program logic and monitoring and evaluation plan; to be delivered at Milestone 102	✓	Submitted on time and approved by Hort Innovation by 1 st week of June 2019
A project risk register and risk management; to be delivered at Milestone 102	✓	Submitted on time and approved by Hort Innovation by 1 st week of June 2019.
A stakeholder engagement/communication plan; to be delivered at Milestone 102	✓	Submitted on time and approved by Hort Innovation by 1 st week of June 2019.
Key training resources in sensory assessment of EVOO and TO (ongoing)	✓	• TasteBook® Workshop Workbook- An industry handbook developed for the current Hort Innovation funded project for training participants. • Instructional and educational videos created by the project leader and shared with virtual TasteBook® post rounds 6 & 7 • Several key training resources and presentations shared with every participant in either face-to-face/virtual TasteBook® workshops/sessions.

Masterclass and workshops for identified industry stakeholders		7 different activities have been completed in the form of workshops, Masterclasses and consumer surveys and tasting to ensure identified industry stakeholders can benefit from the learning. They are as follows: • Young Judges Training program in SA in Aug 2019- 72 high school students and 12 teachers from 5 different SA high schools were shortlisted and participated in this 2-day intensive training program. Every session was scheduled for 3 hours and focussed on fundamentals of sensory science, understanding of EVOO sensory attributes, training on various attributes and judging on the same to differentiate between Gold medal winning EVOO from an EVOO available in the supermarket. • Consumer survey and tasting at Wollongbar Primary Industries, NSW DPI- in conjunction with the celebration of 125 years anniversary of Wollongbar Agricultural Institute, a consumer survey was completed to understand and explore with 72 general consumers. A consumer tasting was also held to ensure everyone can taste and experience the positive and negative sensory attributes of table olives and EVOO along with appreciating Gold medal winning Australian olive products. 120 participants tasted various olive products. • Masterclass at Hobart in conjunction with Hobart Fine Food Show in July 2019. This session was first of its kind in Hobart Fine Food show and was open to any judges and general consumers who are enthusiastic about understanding and appreciating various sensory attributes of olive oil and table olives. • Masterclass with NSW DPI Horticulture colleagues- to improve awareness and knowledge about EVOO and table olives and what to look for in those products. 20 participants were present for the 3-hour session. • Olive oil and table olive tasting session at Terrigal, Central Coast • TasteBook Live workshop at 2019 Australian Olive Association (AOA) National conference, Albury • “Olive sensory workshop- learn about the sensory attributes of some of Australia’s best olives and oils”- Pre-Congress workshop on “Mediterranean diet: from evidence to implementation workshop” on 9th Feb 2020 at World Congress on Oils and Fats and ISF Lectureship Series in 2020, Sydney 8 rounds of face-to-face TasteBook® workshops completed at: • Waite Campus, Adelaide, SA (24th May 2019 & 6th March 2020) • Geelong, Victoria (14th June 2019) • Wagga Wagga, NSW (30th June 2019) • Mt Hawthorn, WA (18th Aug 2019) • Wangaratta, Vic (31st Aug 2019) • Lovedale, Hunter Valley, NSW (27th Oct 2019) • Campbell Town, Tasmania (29th Feb 2020) 3 rounds of virtual TasteBook® Post rounds completed at: • Round 5- focus on single varietal EVOO Picual from award winning Australian and New Zealand groves • Round 6- focus on flavoured oil from award winning Australian olive groves • Round 7- focus on single varietal table olive Kalamata from various olive groves in Australia
Presentation of findings at industry conferences		The project leader has presented in several national and international workshops in Australia during the project duration, they are: • AOA National Conference 2019, Albury- conducting a TasteBook Live Workshop on 19th October 2019 • “Olive sensory workshop- learn about the sensory attributes of some of Australia’s best olives and oils”- Pre-Congress workshop on “Mediterranean diet: from evidence to implementation workshop” on 9th Feb 2020 at World Congress on Oils and Fats and ISF Lectureship Series in 2020, Sydney • Oral presentation- “Application of sensory science for improved sensory literacy and continuous improvement in Australian olive industry- on 10th Feb 2020 at World Congress on Oils and Fats and ISF Lectureship Series in 2020, Sydney International Olive Oil Connoisseur Course in Pienza, Italy from 13th- 16th May 2019- the project leader was successful in achieving “Olive Connoisseur Diploma” and “Physiological Aptitude Certificate” presented by Olive Oil Academy, attesting to course attendance, completion of theoretical knowledge, practical skills and passing selective olive oil tests. The project leader also attended 2020 Aus NZ sensory science symposium in Eltham, Melbourne in Feb.

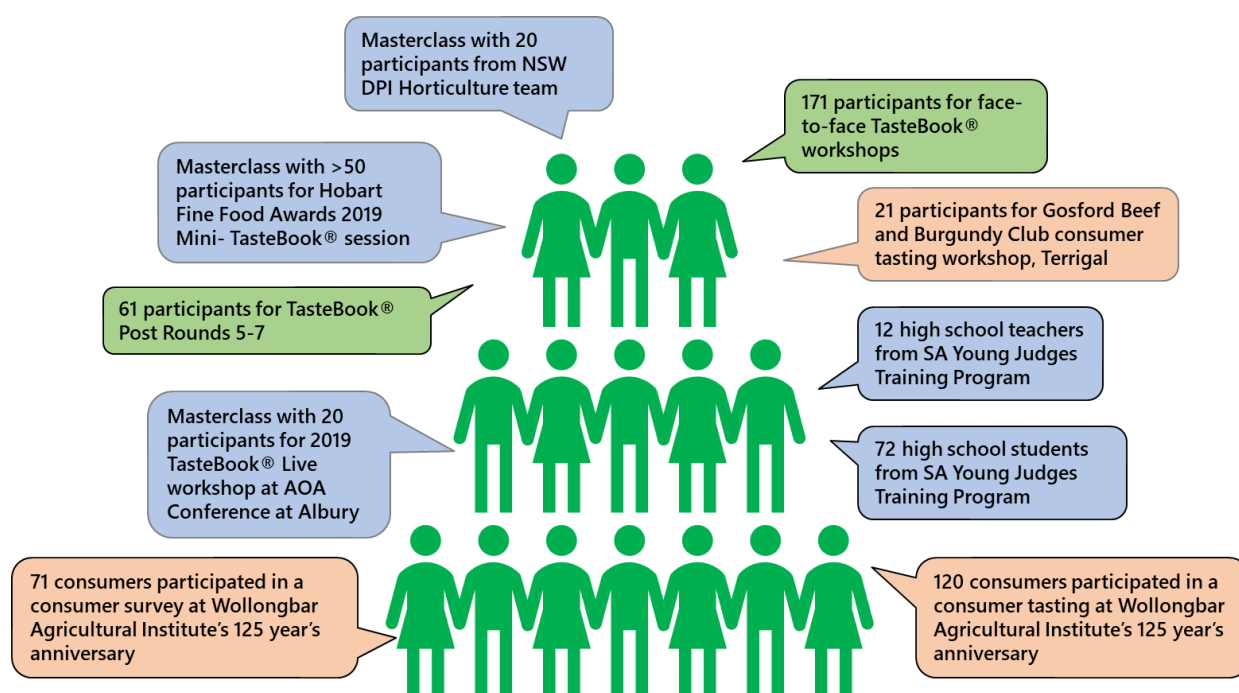
Contribution to industry magazines such as Australian and New Zealand Olivegrower and Processor quarterly magazine	✓	During the project duration between April 2019-2020, the project leader has written several articles, R&D insights and published advertisements in the industry magazine- Australian & New Zealand Olive Grower and Processor. The list is: • TasteBook round 5 explores varietal variance- Australian & New Zealand Olivegrower & Processor, March 2019, Issue 111, 6. • Learn how to pick a Picual with TasteBook round 5- Australian & New Zealand Olivegrower & Processor, June 2019, Issue 112, 8. • R&D Insights- Explore sensory skills and quality parameters at TasteBook™/OliveCare® workshops- Australian & New Zealand Olivegrower & Processor, June 2019, Issue 112, 29-30. • 2019 NZ EVOO Awards- Australian & New Zealand Olivegrower & Processor, June 2019, Issue 112, 39. • Regional Round-up- Fine Food awards “Mini-TasteBook” a sell out- Australian & New Zealand Olivegrower & Processor, Sept 2019, Issue 113, 9. • Sensory training steps up for potential young judges- Australian & New Zealand Olivegrower & Processor, Sept 2019, Issue 113, 17. • R&D Insights- Olive industry sensory training workshops- Australian & New Zealand Olivegrower & Processor, Sept 2019, Issue 113, 30. • Australian in the spotlight at World Congress on Oils & Fats 2020- Australian & New Zealand Olivegrower & Processor, Dec 2019, Issue 114,7. • 2019 Conference sponsors and exhibitors- Australian & New Zealand Olivegrower & Processor, Dec 2019, Issue 114,31-33. • Young Judges program an outright winner- Australian & New Zealand Olivegrower & Processor, Dec 2019, Issue 114,34-35. • Olive R&D- TasteBook round 5- Picual extra virgin olive oil sensory experience- Australian & New Zealand Olivegrower & Processor, Dec 2019, Issue 114,42-43. • Australian olive industry shines at WCOF2020- Australian & New Zealand Olivegrower & Processor, March 2020, Issue 115, 5.
An accurate costed budget to run the various training activities (such as TasteBook®) so that a clear recommendation on a commercial model for sensory training can be established	✓	has been submitted as a confidential PowerPoint presentation with the final report.
Publication of manuscripts using the results of the studies in international peer reviewed journals within 2 years of the project	✓	No peer reviewed articles were published during the project lifetime, but 2 publications are planned (to be submitted for publication by April 2022) in international journals. The project leader is collaborating with olive industry experts in Australia to write the manuscripts and publish to ensure the project outcomes are disseminated among the industry peers.
6 monthly milestone status report	✓	Submitted on time and approved by Hort Innovation by 1 st week of October 2019.
Final project report submitted by mutually agreed dates	✓	Hort Innovation and NSW DPI have mutually agreed via email final submission date is 8th May 2020.

Outcomes

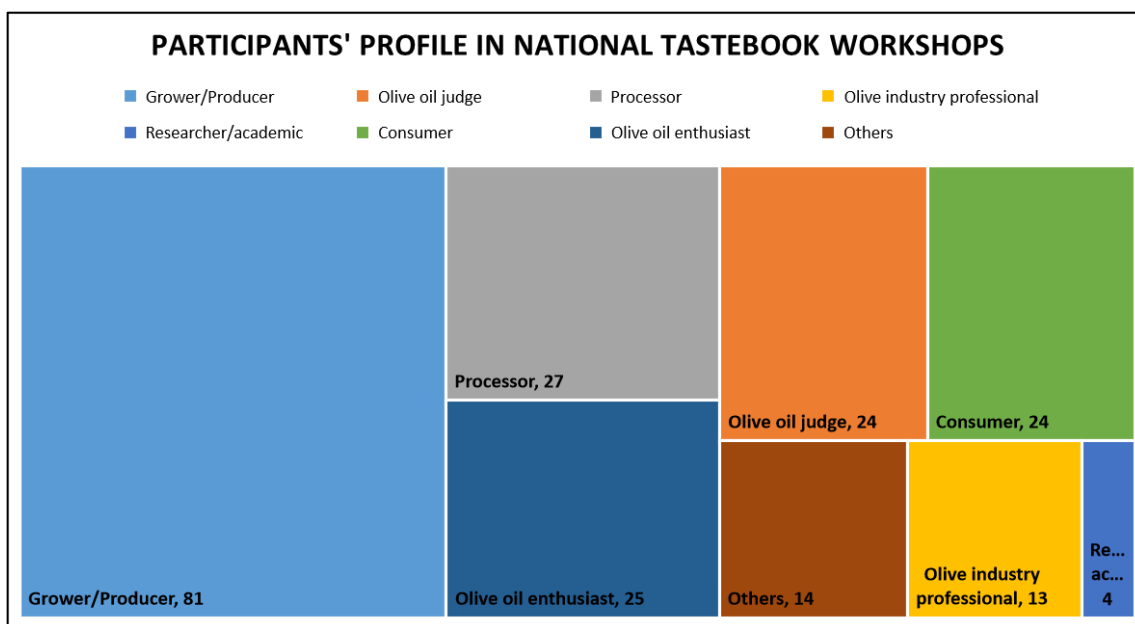
The Program had seven major outcomes associated with its integrated staged training programs:

- Increased Australian olive industry stakeholders' participation and engagement in all face-to-face of TasteBook® sessions
- Providing a formal mechanism for delivering a national framework of sensory training
- Improved knowledge, skills and awareness of new entrants, olive oil enthusiasts, olive oil panel members and identified stakeholders from the olive industry with the required sensory assessment skills to confidently undertake organoleptic assessment of EVOO and TO and ensure the consistent delivery of a quality product
- Outreach and involvement with general consumers via delivery of sensory masterclass, consumer tasting, Young Judges Training program and consumer survey
- Capacity building in Australian olive industry via development and delivery of competency based staged training program and resources
- Identification of knowledge gaps for future projects and actions within the industry
- Delivery of clear actionable recommendations for developing an appropriate stand-alone industry-driven sensory training program (self-supported from funding perspective)

One of the key areas of success measurement in achieving the desired outcomes was to objectively measure how many participants attended various face-to-face and Post rounds (online) of TasteBook® sessions, sensory masterclass, Young Judges Training Program, consumer workshops and surveys at different milestones of the project. The project was considered very successful as a total number of 618 participants registered and attended various events; some of these events were not originally planned and included in the approved project proposal. The project leader planned these extra activities and eventually able to achieve the success of industry wide participation and engagement during this one-year project timelines. The breakdown of the numbers is provided in the figure below.



Building olive industry skills and capacity through delivery of a national training program was achieved through 8 face-to-face sensory training workshops delivered in different regions of Australia including Adelaide (2 times), Geelong, Wangaratta, Wagga Wagga, Hunter Valley, Western Australia and Campbell Town (Tasmania). A total of 171 participants actively participated and completed the TasteBook® training, participants' profile ranged from grower/producer, olive oil enthusiast, olive oil judges, beginners/new buyers of olive groves, olive industry professionals, general consumers and academics.



One of the key evaluation metrics developed was to track how the project leader was able to reach various olive industry stakeholders via their attendance and participation in the main two formats of TasteBook® training (face-to-face and online). Table 2 details the target metrics of achieving increased industry participation at various Milestone report submission deadlines and the progress/evaluation at each stage. This table clearly shows that the project leader was not only able to meet the target number of participants at various Milestones stages, MS102, MS103 and MS190, but also exceeded in achieving more participation. This also explains that the training program was also a requirement for many industry participants to upskill/refresh their knowledge.

Table 2: Industry participation in both formats of TasteBook® sessions

Increased industry participation in various sensory face-to-face and online TasteBook® workshops		
Number of participants	Target metrics of participants	Progress/Evaluation
MS102 (1 st Milestone report, submitted on 1 st week of June 2019)	25	26 (104%)
MS103 (2 nd Milestone report, submitted on 1 st week of October 2019)	100	151 (151%)
MS190 (Final report, submitted on 8 th May 2020)	200	232 (116%)

The industry participation and engagement were also measured through the successful completion rate of pre and post workshop survey questionnaire. Out of 171 participants attended 8 national workshops, 146 (85.4%) participants completed the pre-workshop survey, whereas 134 (78.4%) completed the post-workshop surveys questions. This higher completion rate was also evident in each workshop, where a minimum 70% participants have completed both surveys before and after the workshop (Table 3).

Table 3: Pre and post workshop survey completion rate- Participants' engagement tracking status

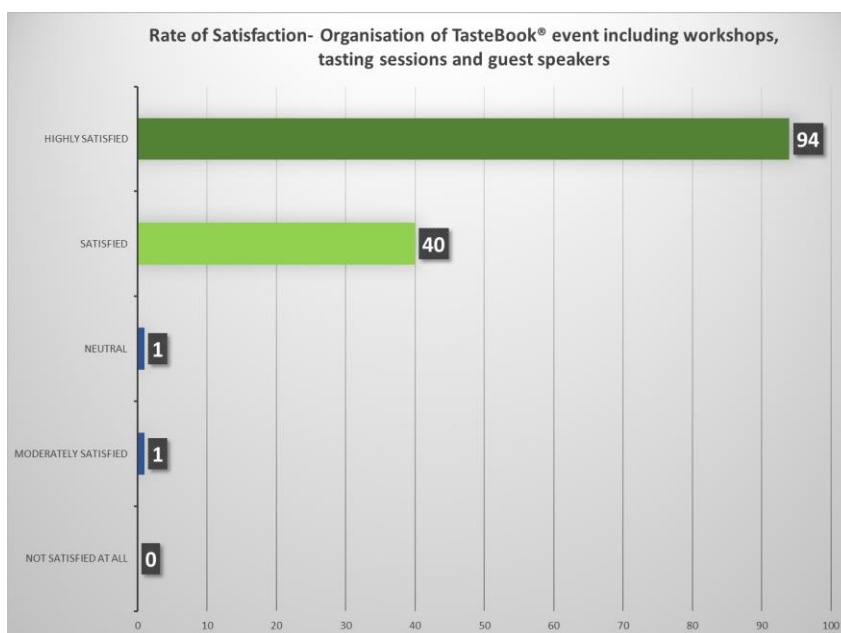
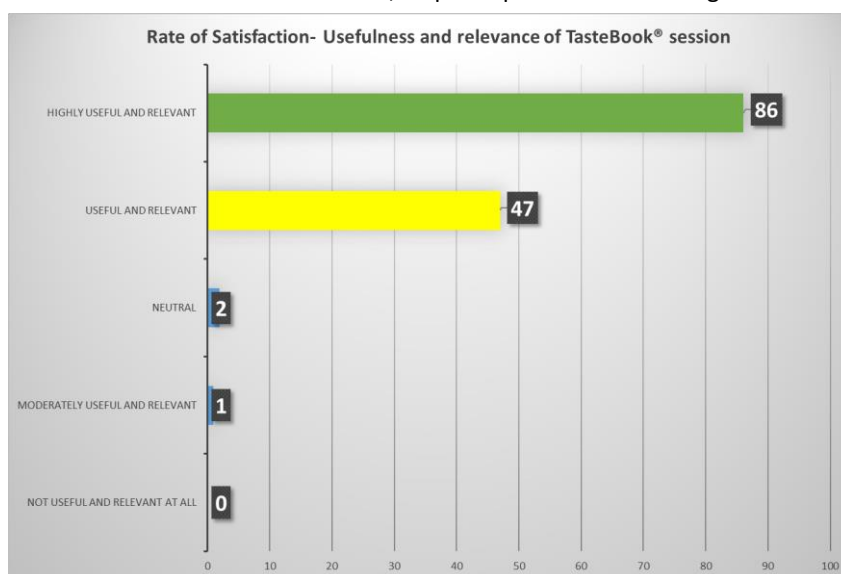
TasteBook® face-to-face Workshop locations	Date	Total number of participants	Pre workshop survey completion numbers and rate	Post workshop survey completion numbers and rate
Adelaide Waite Campus, SA	May 2019	26	19 (73%)	21 (81%)
Geelong, Victoria	June 2019	31	26 (84%)	22 (71%)
Wagga Wagga, NSW	June 2019	20	16 (80%)	14 (70%)
Perth, Western Australia	August 2019	28	24 (86%)	25 (89%)
Wangaratta, Victoria	August 2019	15	14 (93%)	12 (80%)
Lovedale, Hunter Valley, NSW	October 2019	12	11 (92%)	9 (75%)
Adelaide Waite Campus, SA	March 2020	22	20 (91%)	17 (77%)
Campbell Town, Tasmania	February 2020	17	16 (94%)	14 (82%)
Total 8 workshops	2019- 2020	171	146 (85.4%)	134 (78.4%)



The completed pre-workshop survey feedback was a rich source of information for the project leader to understand the training needs of the participants, so that tailored training program focusing on majority of the

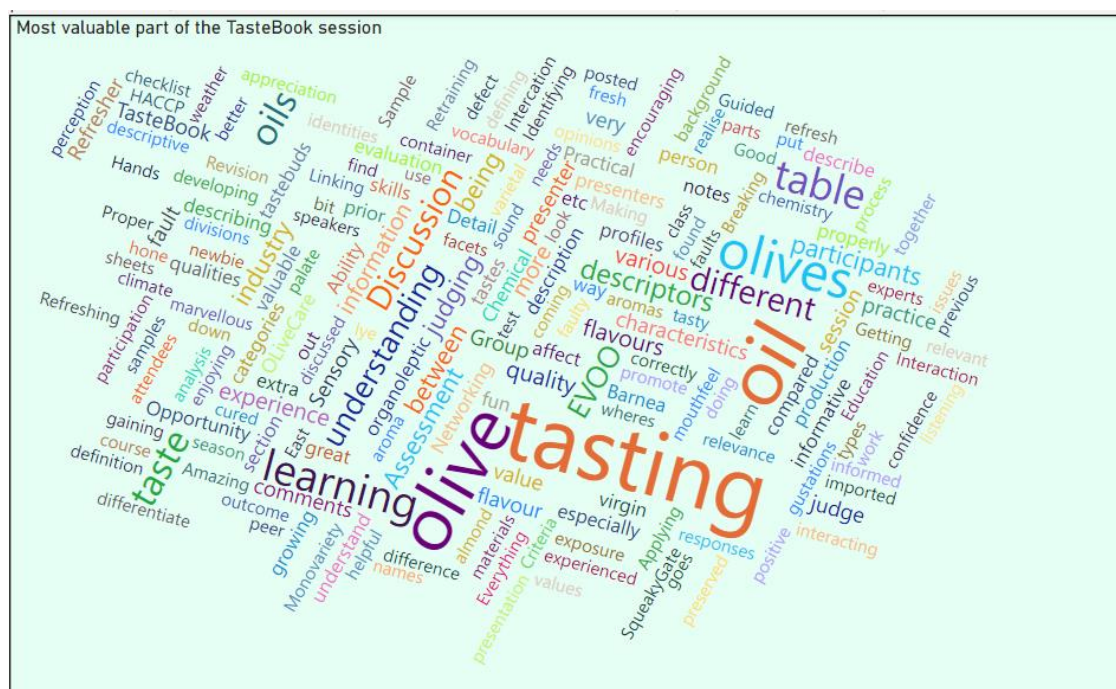
industry stakeholders was developed. The clear expectations from the TasteBook® session helped develop the workshop material well and were able to set the tone of the training program for effective knowledge transfer. To visualise better how each participant described his/her expectations from the workshop, a “word cloud” was developed to summarise the feedback. To read the word clouds easily, one must identify the “size” of the words mentioned inside the cloud- the bigger the size of the descriptor, the more frequent that particular descriptor is repeated within participants’ feedback in the pre-workshop questionnaire. The participants wanted to learn and understand more about different sensory quality of oil (EVOO) and olives, experience and appreciate gold medal winning products, learn how to do the tasting, identify various flavour profiles and networking with others for sharing knowledge and expertise.

Capacity building in Australian olive industry via development and delivery of competency based staged training program and resources would be considered successful and effective, if participants indicated higher rate of satisfaction in their learning, meeting expectations and relevance of the training sessions to their needs. Questions were included in the post-workshop survey to understand participants’ rate of satisfaction for 2 key areas. Both rating questions were asked on a 5-point scale. The first question asked the participants to rate their satisfaction for the organisation of the TasteBook® event including the workshops, tasting sessions and guest speakers. The answers on the 5-point scale ranged from “not satisfied at all (1)” to “neutral” (3) to “highly satisfied (5)”. 94 participants (69%) were “highly satisfied” and 40 participants (29%) were “satisfied” with the organisation of the session leading to approximately 98% satisfaction, which can be considered very high. Similarly, when the participants were asked to rate the usefulness and relevance of the TasteBook® session, the answer trend revealed high rate of satisfaction. 86 participants (63%) commented the session was “highly useful and relevant” and 47 participants (34%) found the session “useful and relevant”, leading to 97% satisfied participants with the relevance of this training program for their learning. These outcomes are considered very high achieving and explain the higher engagement of the participants in all face-to-face workshops.



Participants were also asked open-ended questions to measure and evaluate their engagement and reciprocation with the project leader in providing honest feedback. The responses reveal “what went well” in this training program and constructive feedback for improvement and implementation in the future. Another word cloud was

developed to capture the most valuable part of the workshop. There was a greater agreement among the participants in learning, understanding various descriptors and tasting of EVOO and table olives and discussing their sensory quality, flavour profiles within the group.



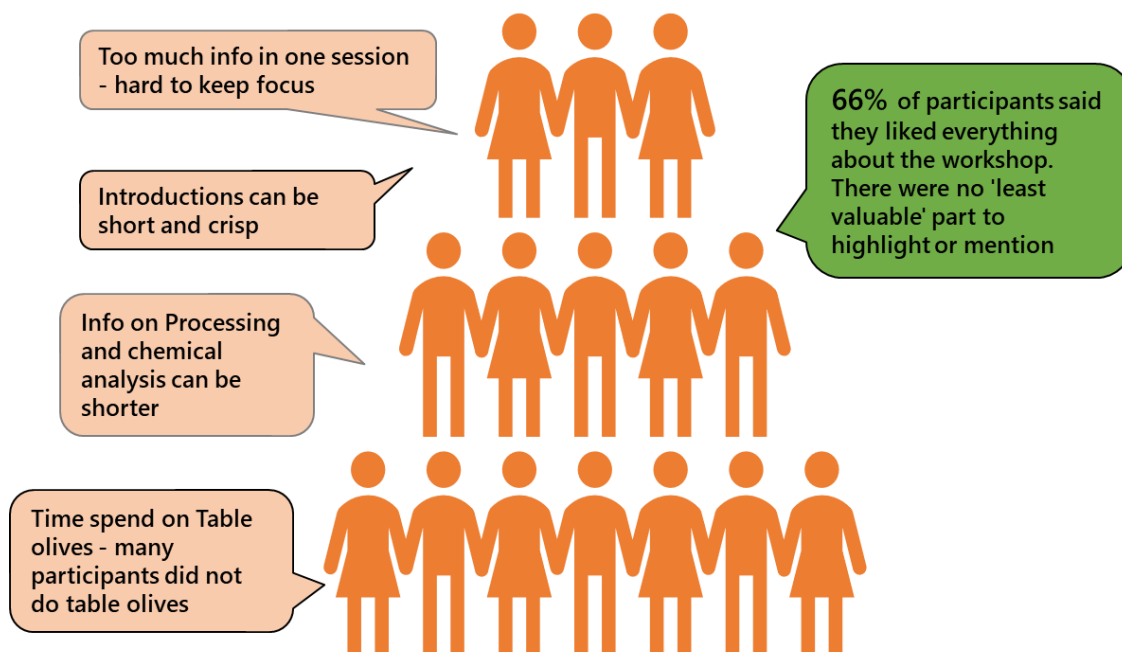
Participants were encouraged to highlight any new information they learned from these workshops. A significant proportion of participants said “yes” on learning something new and the range of answers varied according to the skills and expertise of the participants.



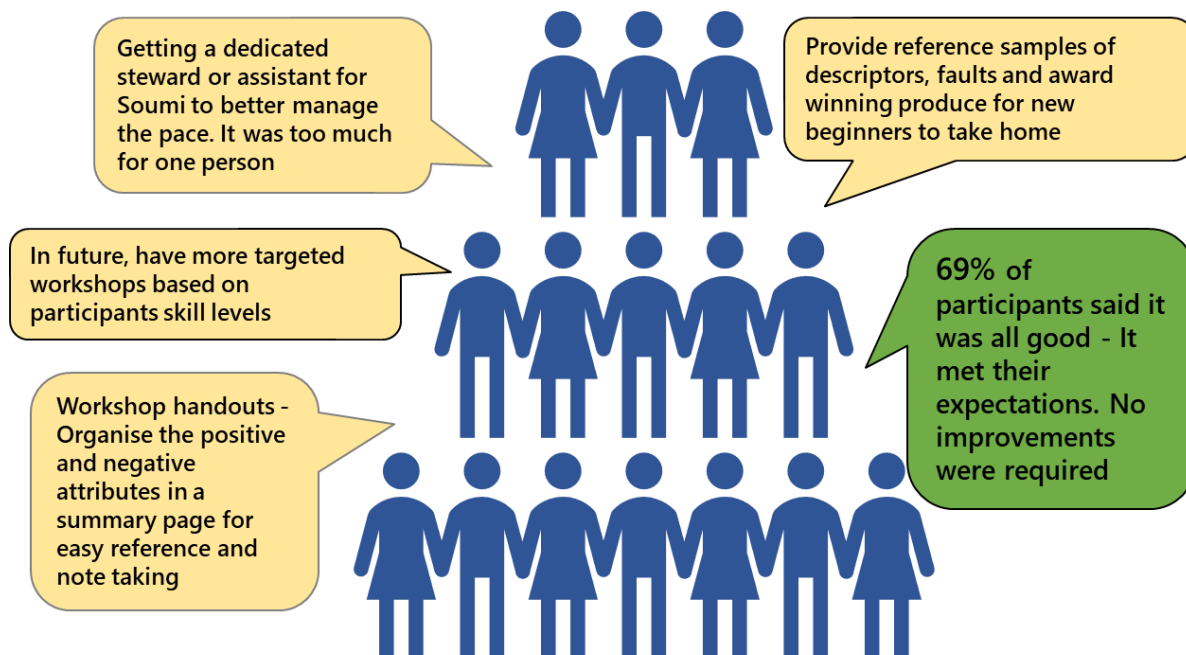
Along with the success of the workshops, it is equally important to know if any part of these workshops were considered “least valuable” by the participants or to understand the future areas of improvement. 66% participants mentioned that they liked everything about the workshops and there was nothing “least valuable” to

highlight. 69% participants said it was all good – the training workshops met their expectations and no improvements were required. However, some participants mentioned about having too much information in one session which did not help them to focus and shortening some of the training resources will be able to utilise the training time well.

What was the least valuable part of the TasteBook® workshop?



Areas of improvement for the TasteBook® workshop?



Monitoring and evaluation

This project aligns with the following objectives and strategies in the ¹*Olive Strategic Investment Plan 2017-2021 (Hort Innovation)* (Table 4).

In particular: **Outcome 1** of the ¹*Olive Strategic Investment Plan 2017-2021 (Hort Innovation)*: “Improved on-farm productivity, sustainability and product quality” using the key strategies: “Promote world-best practice in olive oil production, storage and packaging to maintain quality and increase consumer confidence”; as well as on **Outcome 3** “Greater skills, capacity, and knowledge in the industry” and the key strategy to drive it: “Communicate and extend outcomes of industry R&D”.

Table 4: Monitoring and evaluation (M&E) plan (*relevant sections of the strategic plan related to this project are highlighted in blue*)

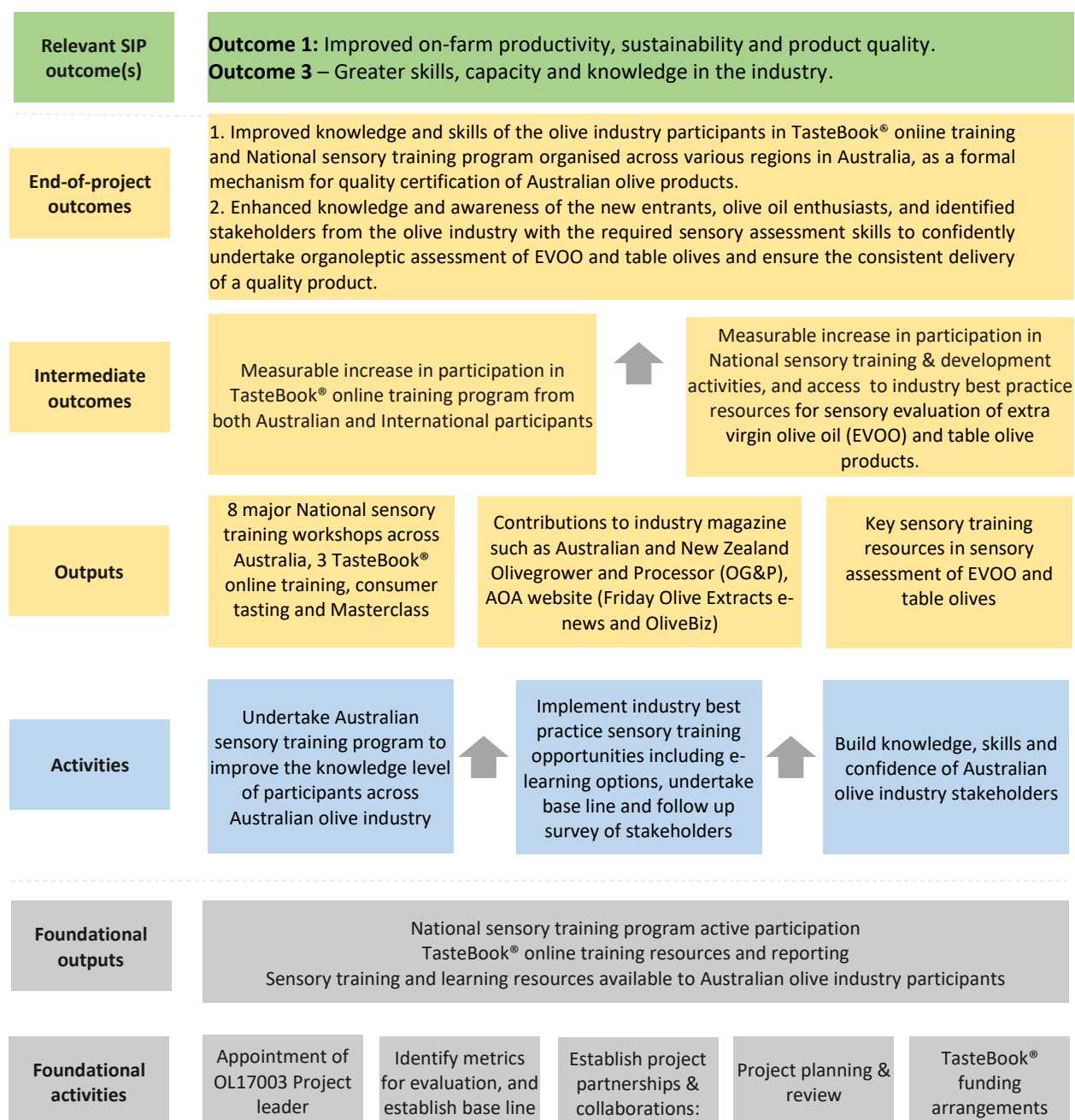
Outcome	Strategies	KPIs	Data collection methods and sources
Outcome 1: Improved on-farm productivity, sustainability and product quality	Strategy 1.1: Promote world-best practice in grove management to increase productivity and quality	- Increase average industry oil yield. Baseline and growth targets to be determined through initial benchmarking study (see Strategy 1.3), with differentiation between different production systems: - Number of/per cent of practice changes (uptake and adoption) farms/producers (by industry) alignment of olive SIP outcomes to the Hort Innovation investment priorities - Degree of influence of research uptake by growers (by industry segment)	➤ Benchmarking study to be commissioned ➤ AOA ‘Health of the industry’ survey ➤ Stakeholder baseline survey and follow-up survey to assess practice change ➤ National sensory training workshop and TasteBook® online training attendance, pre and post-workshop surveys to assess effectiveness of training
	Strategy 1.2: Promote world-best practice in olive oil production, storage and packaging to maintain quality and increase consumer confidence		
	Strategy 1.3: Develop an industrywide system to collect and analyse production data (benchmarking)		
	Strategy 1.4: Develop and refine pest and disease control strategies (IPM)		
Outcome 3 – Greater skills, capacity and knowledge in the industry	Strategy 3.1: Communicate and extend outcomes of industry R&D (High)	- Increase confidence and skills of growers to increase yields, better manage pest and diseases and other problems and extract more olive oil - Increase attendance at workshops, conferences and training programs	➤ Stakeholder baseline survey and follow-up survey to assess practice change ➤ National sensory training workshop and TasteBook® online training attendance, pre and post-workshop surveys to assess effectiveness of training

¹ Olive Strategic Investment Plan 2017-2021 (Hort Innovation): <https://horticulture.com.au/wp-content/uploads/2017/04/HortInnovation-olive-SIP.pdf>

Table 4: Key evaluation questions

Domain*	Key evaluation questions
Effectiveness	1. To what extent is the project achieving its expected outcomes? Project Planning (completed): Including preparation of Monitoring & Evaluation (M&E) Plan, Program Logic, Risk Management Plan, Stakeholder Engagement Plan, Annual Work Plan and establishment of a Project Reference Panel. Establishment of detailed program for National workshops (completed): Including detailed plan for 8 national sensory training workshops around Australia starting from May 2019 till March 2020, involving olive industry experts as guest presenters, ensuring every participant is aware of the correct ways of tasting olive oil and table olives and facilitating open communication. Establishment of participant workbook (completed): Including establishment of a detailed workbook which will be provided to the National workshop participants ensuring the necessary details covered. Establishment of detailed program for TasteBook® quarterly online training (ongoing): Including planning for TasteBook® Round 5 (continuing from 2018 TasteBook® program run by AOA) focusing on four different olive oil samples of single varietal Picual to be distributed. The registration link and required necessary details are available.
Relevance	2. How relevant is the project to the needs of intended beneficiaries? Anecdotally this project remains very relevant to the needs of intended beneficiaries, through providing a systematic approach in delivering effective sensory training to improve the skills and confidence of olive producers and subsequently raising the quality of their products, with the aim of meeting consumer quality expectations for Australian olive products. This assertion will be tested by the stakeholder surveys.
Process appropriateness	3. How well have intended beneficiaries been engaged in the project? There is a high level of engagement by the TasteBook® project leader with every participant– individually, primarily through email and telephone contact, and collectively through the Olive Grower and Processor magazine, and via AOA conference and workshop activities, publications and websites. 4. To what extent are engagement processes appropriate to the target audience/s of the project? The project methodology is consistent with the outcomes of the previous industry needs analysis undertaken by AOA. Because of the cost considerations, project beneficiaries are primarily engaged electronically; However it is recognized that many olive producers prefer face to face contact; this objective is being addressed by convening National sensory training workshops in conjunction with TasteBook® quarterly online training, field days and workshops, and through other AOA conference, face to face information transfer and training events.
Efficiency	5. What efforts is the project making to improve efficiency? The National sensory training workshops are expected to operate smoothly and efficiently from May-March 2020. This project also has a high level of engagement and collaboration with other R&D project teams including working with and promoting outputs from: OL17006. The current project is aiming to target higher number of olive industry participants in its National sensory training workshops and online TasteBook® training workshops. It also focuses on receiving feedback from pre and post-workshop surveys to continuously improve training delivery efficiencies across Australian olive industry stakeholders.

Program logic framework:



Annual work plan:

During the MS102 reporting period primary engagement with stakeholders was:

- Finalisation of the 8 National sensory training workshops and 3 TasteBook® online training in various regions of Australia
- Collaboration with OL17006 to deliver presentations on the OliveCare® program
- Preparation of the National workshop workbook for registered participants, pre and post workshop surveys

Table 5: Deliverables (Outputs) summary

Month	Milestone Reports / PRG Meetings	National sensory Training Workshops	TasteBook® online training	Surveys / Feedback	Stakeholders engagement
April 2019	MS101 - Agreement Signed / IP arrangements in place	Program plan completed and recruitment for participants started		Pre and post workshop surveys created	Email communications with every olive industry levy-payers' members and non-members, dedicated link created for AOA OliveBiz websites to communicate easily with anyone who is interested in trying to find more
May 2019	MS102 – contractual project planning and evaluation requirements delivered; Report on Program Reference Committee, a monitoring and evaluation plan, stakeholder engagement plan delivered	Adelaide (24 th May)- 1 st National sensory training workshop concluded in University of Adelaide, Waite campus	Program plan completed and recruitment for participants for Round 5 started	Workshop participants surveys	Continuous email communications with reminders for registration and answering any questions that participants have
June 2019		Planned workshops: 1. Geelong-14 th June 2. Wagga Wagga- 30 th June		Workshop participants surveys	Continuous email communications with reminders for registration and answering any questions that participants have
July 2019					Continuous email communications with reminders for registration and answering any questions that participants have
August 2019	MS103- 6 monthly report submission	Planned workshops: 1. Western Australia- 18 th August 2. Wangaratta- 31 st August	Report writing and publication of results of Round 5 in Olivegrower & Processor	Workshop participants surveys	Continuous email communications with reminders for registration and answering any questions that participants have

During the MS103 reporting period primary engagement with stakeholders was:

- Update of the 8 National sensory training workshops and TasteBook® online training in various regions of Australia
- Collaboration with OL17006 to deliver presentations on the OliveCare® program
- Preparation of the National workshop workbook for registered participants, pre and post workshop surveys and reflecting on learning for continuous improvement of the project progress.
- Discussion with various participants from Australian olive industry and engaging in 2-way discussions about requirement of their sensory training and improving their skills.

Table 6: Deliverables (Outputs) summary

Month	Milestone Reports / PRG Meetings	National sensory Training Workshops	TasteBook® online training	Surveys / Feedback	Stakeholders engagement
September 2019	MS103 – Report on Program Reference Committee minutes, progress report	Australian International Olive Awards Judging			Email communications with every olive industry levy-payers' members and non-members, dedicated link created for AOA OliveBiz websites to communicate easily with anyone who is interested in trying to find more Continuous email communications with reminders for registration and answering any questions that participants have
October 2019		Albury-19 th October Hunter Valley- 27 th October	Program plan completed and recruitment for participants for Round 6 started	Workshop participants surveys	
November 2019			Report for Round 5 and 6 will be published in Olivegrower & Processor		
Dec 2019	2 nd Project Reference Committee meeting				
January 2020			recruitment for participants for Round 7 started	Workshop participants surveys	
February 2020	3 rd and final meeting on end of Feb/start of March	Planned workshops: Tasmania-29 th February			
March/April 2020	Final report submission (MS190) by 8th May 2020	Planned workshops: Adelaide (Waite campus)- 6 th March	Report for Round 7 will be published in Olivegrower & Processor		

Table 7: Risk management plan

The risk	Potential causes / sources	Potential impacts	Controls	Likelihood with controls in place	Consequences with controls in place	Treated risk assessment	Risk evaluation acceptable	Responsible person
<i>Loss of key project personnel</i>	<i>Resignation or retirement</i>	<i>Loss of key knowledge & experience</i>	<i>Project team trained in multiple skills; Regular project team meetings to share information on progress; Central storage of project data/information; Development of SOPs</i>	<i>Possible</i>	<i>Minor</i>	<i>Medium</i>	<i>Yes</i>	<i>Soumi Paul Mukhopadhyay</i>
<i>Budget overrun</i>	<i>Cost increases, additional services provided</i>	<i>Failure to meet budget</i>	<i>Services contracted at fixed price; Close program monitoring; Financial control strategies</i>	<i>Unlikely</i>	<i>Insignificant</i>	<i>Low</i>	<i>Yes</i>	<i>Soumi Paul Mukhopadhyay</i>
<i>Low grower engagement in National sensory training workshops and TasteBook™ online training</i>	<i>Growers unable or unwilling to attend; training materials content not relevant; Inappropriate extension strategies for the target audience</i>	<i>Low uptake of sensory training methodology; Underachievement of intended project outcomes</i>	<i>Development of stakeholder engagement plan; Early establishment of industry networks; Collaboration with OL17006 information transfer activities; Strong promotion of available resources and events; Team members with knowledge transfer expertise</i>	<i>Possible</i>	<i>Insignificant</i>	<i>Low</i>	<i>Yes</i>	<i>Soumi Paul Mukhopadhyay</i>
<i>Lower than expected growth in projected program participation</i>	<i>Failure to achieve program critical mass or engagement along the supply chain</i>	<i>Detract from 'whole of industry' best practice adoption objective</i>	<i>Identify high profile key olive industry sensory experts in each region to support and promote workshop participation and training, sharing and communicating industry best practices</i>	<i>Possible</i>	<i>Minor</i>	<i>Medium</i>	<i>Yes</i>	<i>Soumi Paul Mukhopadhyay</i>

Table 8: Stakeholder engagement plan

The primary audiences for OL17003 are primarily olive growers, processors, brand owners, general consumers, nationally and internationally accredited sensory panelists, AOA competition judges, industry stakeholders and Hort Innovation management.

Who	Stakeholder	Primary audience	Technical: Olive industry participants, Sensory Researchers	NSW DPI/AOA/ Project team	Hort Innovation/Project reference panel	Government / NGOs
Why	Why engage with this group	<i>Delivery of improved knowledge & understanding; Support industry efficiency & sustainability; Build consumer confidence in olive products; Increase supply chain participation in TasteBook™ and National sensory training workshops</i>	<i>Leverage delivery of improved knowledge & understanding; Support industry efficiency & sustainability</i>	<i>Enhance delivery of industry communication, and improved knowledge & understanding; Support industry efficiency & sustainability</i>	<i>Enhance delivery of improved knowledge & understanding; Enhance delivery of communication of outcomes of levy funded R&D projects</i>	<i>Enhance engagement and compliance with government programs and regulation</i>
How	What is the level of engagement	<i>*Inform, Consult, Involve, Empower</i>	<i>*Consult, Involve, Collaborate</i>	<i>*Consult, Involve, Collaborate</i>	<i>*Consult, Involve, Collaborate</i>	<i>*Consult, Involve, Collaborate</i>
	Proposed method of engagement	<i>Direct one-on-one engagement, National sensory training workshops, TasteBook™ News, AOA conference presentations, contribute industry journal articles & content on industry websites, Survey Monkey.</i>	<i>Direct one-on-one engagement, National sensory training workshops, TasteBook™ News, AOA conference presentations, contribute industry journal articles & content on industry websites.</i>	<i>Direct engagement with AOA CEO and Directors, Olive industry levy-payers and broader audience, contribute industry journal articles, industry websites; Collaboration with OL17006</i>	<i>Engagement with Industry relationship manager, R&D program managers; Collaboration with Hort Innovation funded project, OL17006</i>	<i>As appropriate</i>
	Timing of engagement	<i>Ongoing throughout the year</i>	<i>Periodic as necessary</i>	<i>Ongoing throughout the year</i>	<i>PRG meetings Milestone reports SIAP meetings Personnel as necessary</i>	<i>As appropriate</i>
	Resources required	<i>AOA database Expand industry networks</i>	<i>Established industry networks, partnerships and collaboration</i>	<i>Project funding</i>	<i>Project funding</i>	<i>Established agency contacts</i>
	Responsibility	<i>Soumi Paul Mukhopadhyay</i>	<i>Soumi Paul Mukhopadhyay</i>	<i>Soumi Paul Mukhopadhyay</i>	<i>Soumi Paul Mukhopadhyay</i>	<i>Soumi Paul Mukhopadhyay</i>

	Key messages to communicate	<i>Adoption of olive industry best practice for olive oil sensory tasting to enhance olive oil and table olive quality for consumers</i>	<i>Support adoption of olive industry best practice</i>	<i>Engage whole of industry; Provide value to olive levy payers</i>	<i>Available information and technology transfer avenues to enhance adoption of levy funded R&D</i>	<i>Industry engagement with government programs and compliance with regulations</i>
Special Considerations	Risk management issues, engagement barriers, audience characteristics	<i>Grower engagement: Need to ensure regional program delivery occurs in each state; Need to build involvement, through identification and recruitment of key opinion makers</i>	<i>Declining availability of government agency technical resources; need to establish networks with private providers</i>	<i>Need to balance service delivery to large and small growers.</i>	<i>Olive grove biennial bearing, collection of levy funds collection and available funding</i>	<i>Change of government, change of policy, personnel turnover</i>

**Inform – To provide information to assist stakeholders to better understand the issue, and/or identify alternatives, opportunities and/or solutions to the issue.*

Consult – To obtain feedback from key stakeholders on the issue, alter natives and/or outcomes.

Involve – To engage directly with key stakeholders throughout the project to ensure that major concerns and needs are understood and considered.

Collaborate – To partner with key stakeholders to develop/evaluate solutions to problems, to make decisions, provide advice and to identify preferred solutions.

Empower – To deliver solutions and/or the ability for informed decision-making in the hands of the stakeholder. Stakeholders are then enabled to directly contribute to the achievement of project outcomes.

Recommendations

Recommendations for future R&D and practical application for the industry:

- It is recommended to continue the delivery of TasteBook® training program and training resources using various formats in the future. However, its success will be determined by an ability to link training needs and requirements from industry stakeholders, with a scouting of available expertise, resources and skill sets within Australian olive industry. The continuation of training is necessary, not only for beginners (to upskilling and networking with similar cohorts), but also as a necessary refresher/reeducation for experienced tasters, judges, panel members and growers. It will help members of the Australian olive community keep themselves abreast of the latest industry knowledge and trend. As was the case with OL17003, future training opportunities will also serve as a platform for domestic collaboration by providing olive industry experts from different states the opportunity to come together for focused and needs based training. Convening regional workshops in the future to present these resources to levy payers is also highly desirable as demonstrated by the success of engagement and participation in the current project.
- It is recommended a national “training needs survey” within the Australian olive industry occur periodically to facilitate the identification of ongoing training needs and focus areas. For example, if growers would like to know more about olive grove management or competition judges would like to understand olive oil defects. It is important to understand these specific needs and develop and provide modular workshops targeting different groups.
- More work needs to be done in the future to define and formalise what it is that judges need to know in order to be a good judge. Currently the classification of judges is set by an organisation’s Chief Judge and Steward – they determine who will join a panel based on the peer review and relevant skills and expertise. It is recommended to make this more formal so that prospective judges are clear about what skills they require in order to be part of a national or international judging panel. This is an important step-up and requirement for the Australian olive industry as show judging and the results significantly promote the best Australian olive products in the domestic and international markets. Hence, it is a pre-requisite to have competent, qualified judging panel to deliver the job effectively. Chief stewards from international, national and state competitions can coordinate this training (funding permitting) with the support from Hort Innovation and Australian Olive Association.
- It is important to connect state olive councils with a national framework of training and skill upgrade program. During the lifetime of this project, the project leader had collaborated successfully to work with several state bodies, such as Australian International Olive Awards, Olives SA, Tasmanian Olive Council, Hunter Olive Association, Western Australian Olive Council not only to promote OL17003 training programs in those states; but also participated in different show-judging and thus able to taste and promote the olive products domestically. It is recommended to work closely with the individual state bodies for accessing the local expertise, promoting available knowledge and coordinating training program.
- 2020 has shown the olive industry how unprecedented events can help us to be ready to tackle various challenges in our life. With drought, bushfires and now COVID-19, building resilience, connectiveness and networking are much needed skill sets. The project leader has observed a decline in the attendance and registration in both face-to-face and TasteBook® Post rounds at start of this year. Although it was expected under the pre COVID 19 circumstances, this also demonstrated the need to adopt flexible approaches. Hence, the project leader took the decision to create instructional online videos and shared the same with TasteBook® Post rounds 6 and 7 participants. These unexpected situations disrupt and test the industry’s ability to deliver various programs, therefore, future projects will need to build capacity to provide continuous training in virtual sessions.

Refereed scientific publications

No peer reviewed articles were published during the project lifetime, but 2 publications are planned (to be submitted for publication by April 2022) in international journals. The project leader is collaborating with olive industry experts in Australia to write the manuscripts and publish to ensure the project outcomes are disseminated among the industry peers.

During the project duration between April 2019-2020, the project leader has written several articles, R&D insights and published advertisements in the industry magazine- Australian & New Zealand Olive Grower and Processor. The list is provided below.

Published articles and R&D Insights in Australian & New Zealand Olivegrower & Processor Magazine:

- TasteBook™ Workshop Workbook- An industry handbook developed for the current Hort Innovation funded project for training participants.
- TasteBook round 5 explores varietal variance- Australian & New Zealand Olivegrower & Processor, March 2019, Issue 111, 6.
- Learn how to pick a Picual with TasteBook round 5- Australian & New Zealand Olivegrower & Processor, June 2019, Issue 112, 8.
- R&D Insights- Explore sensory skills and quality parameters at TasteBook™/OliveCare® workshops- Australian & New Zealand Olivegrower & Processor, June 2019, Issue 112, 29-30.
- 2019 NZ EVOO Awards- Australian & New Zealand Olivegrower & Processor, June 2019, Issue 112, 39.
- Regional Round-up- Fine Food awards “Mini-TasteBook” a sellout- Australian & New Zealand Olivegrower & Processor, Sept 2019, Issue 113, 9.
- Sensory training steps up for potential young judges- Australian & New Zealand Olivegrower & Processor, Sept 2019, Issue 113, 17.
- R&D Insights- Olive industry sensory training workshops- Australian & New Zealand Olivegrower & Processor, Sept 2019, Issue 113, 30.
- Australian in the spotlight at World Congress on Oils & Fats 2020- Australian & New Zealand Olivegrower & Processor, Dec 2019, Issue 114, 7.
- 2019 Conference sponsors and exhibitors- Australian & New Zealand Olivegrower & Processor, Dec 2019, Issue 114, 31-33.
- Young Judges program an outright winner- Australian & New Zealand Olivegrower & Processor, Dec 2019, Issue 114, 34-35.
- Olive R&D- TasteBook round 5- Picual extra virgin olive oil sensory experience- Australian & New Zealand Olivegrower & Processor, Dec 2019, Issue 114, 42-43.
- Australian olive industry shines at WCOF2020- Australian & New Zealand Olivegrower & Processor, March 2020, Issue 115, 5.

Grove Innovation News Index:

- <https://olivebiz.com.au/grove-innovation-news-index/>

Conference presentations:

- AOA National Conference 2019, Albury- conducting a TasteBook Live Workshop on 19th October 2019.
- “Olive sensory workshop- learn about the sensory attributes of some of Australia’s best olives and oils”- Pre-Congress workshop on “Mediterranean diet: from evidence to implementation workshop” on 9th Feb 2020 at World Congress on Oils and Fats and ISF Lectureship Series in 2020, Sydney.
- Oral presentation- “Application of sensory science for improved sensory literacy and continuous improvement in Australian olive industry- on 10th Feb 2020 at World Congress on Oils and Fats and ISF Lectureship Series in 2020, Sydney.

Intellectual property, commercialisation and confidentiality

The intention is to directly transfer the Intellectual Property generated in this project to the end users (e.g. the Australian olive industry including the competition judges and sensory panelists). The outputs the project leader and the team have created are sensory training programs, training materials, consumer research reports, industry publications, seminars (such as presentation of the findings in National Olive conference 2018/19 or other suitable national/international sensory conferences) and scientific peer-reviewed publications in relevant International Journals of Horticultural Research in near future. The project leader has considered the need for confidentiality for part of the report especially for the “business/financial model evaluation”.

No formally protectable IP (such as patents or trade secrets) has been created during this project. The IP created in this project is the copyright © to written, audible, and visual assets created for the extension program throughout the life of the project and afterwards. This IP is assigned by the Research Provider to Hort Innovation, not-withstanding the rights of the Research Provider to use and sub-license this IP to others royalty free for its internal purposes or by consent by Hort Innovation its use for specified purposes for the benefit of the Australian horticultural industries. The Australian Olive Association Ltd (AOA) has agreed to host information resources created during this project, on the AOA and OliveBiz websites, which enables this information to be made available to all olive industry participants on an ongoing basis. These resources include the publications and training materials listed in a previous section of this report.

AOA Pre-existing IP:

The AOA owns the following pre-existing IP as utilised in this project:

- TasteBook® logo and any results and reports associated with this before starting the project OL17003
- Australian & New Zealand Olivegrower & Processor Magazine© (OG&P)- quarterly printed (hardcopy) magazine,
- AOA website,
- Grove Innovation News©,
- Friday Olive Extracts© (FOE) – weekly e-newsletter,
- Olive Industry Directory Yearbook©,
- OliveBiz® website
- R&D Insights

The AOA also owns industry databases created and maintained using AOA resources. These databases enable the AOA to communicate with all participants in the olive industry supply chain. The AOA has authorised the use of its IP royalty free, to enable this project to be undertaken. Please see a copy of the letter of support from AOA in Appendix 1 for NSW DPI and the project leader to use AOA’s prior IP in this project.

Acknowledgements

The author and the project leader sincerely acknowledge the positive support and constructive feedback provided by so many people throughout the project. Without the overwhelming support provided by everyone directly or indirectly involved in this project, this whole project and its associated outputs and outcomes would not have been achievable. Every single words of appreciation would not be enough for the project leader to express the immense gratitude; she has felt and the kind support she has received throughout this one-year journey. The project leader is also grateful and sincerely acknowledge the support she has received from her husband and the understanding especially from their 8-year-old son. Although, she was away on numerous occasions to conduct various workshops and training sessions all around Australia, she never had received any complaints from her son, even if he has missed her dearly.

A sincere thanks and appreciation to the following people in alphabetical order.

- 72 High school students and 12 teachers at South Australia Young Judges Training Program
- AOA Board of Directors
- All participants who have so enthusiastically participated in 8 national face-to-face TasteBook® workshops, 3 virtual TasteBook® post sessions, sensory masterclass at Albury, numerous consumer tasting workshops, consumer surveys in OL17003 to making it successful
- Gerri Nelligan, Editor, Australian & New Zealand Olivegrower & Processor Magazine© (OG&P)
- Hort Innovation funding and program staff support
- NSW DPI AOOSP sensory panel members
- OL17003- NSW DPI Project team members
- OL17003- Project reference group members
- Olives SA
- Peter McFarlane
- Rojina Maharjan
- Staff members at Progress Printing, Condoblin and Kwik Copy North Ryde
- Trudie Michels, Chief Steward, Australian International Olive Awards
- Tasmanian Olive Council
- Western Australia Olive Council

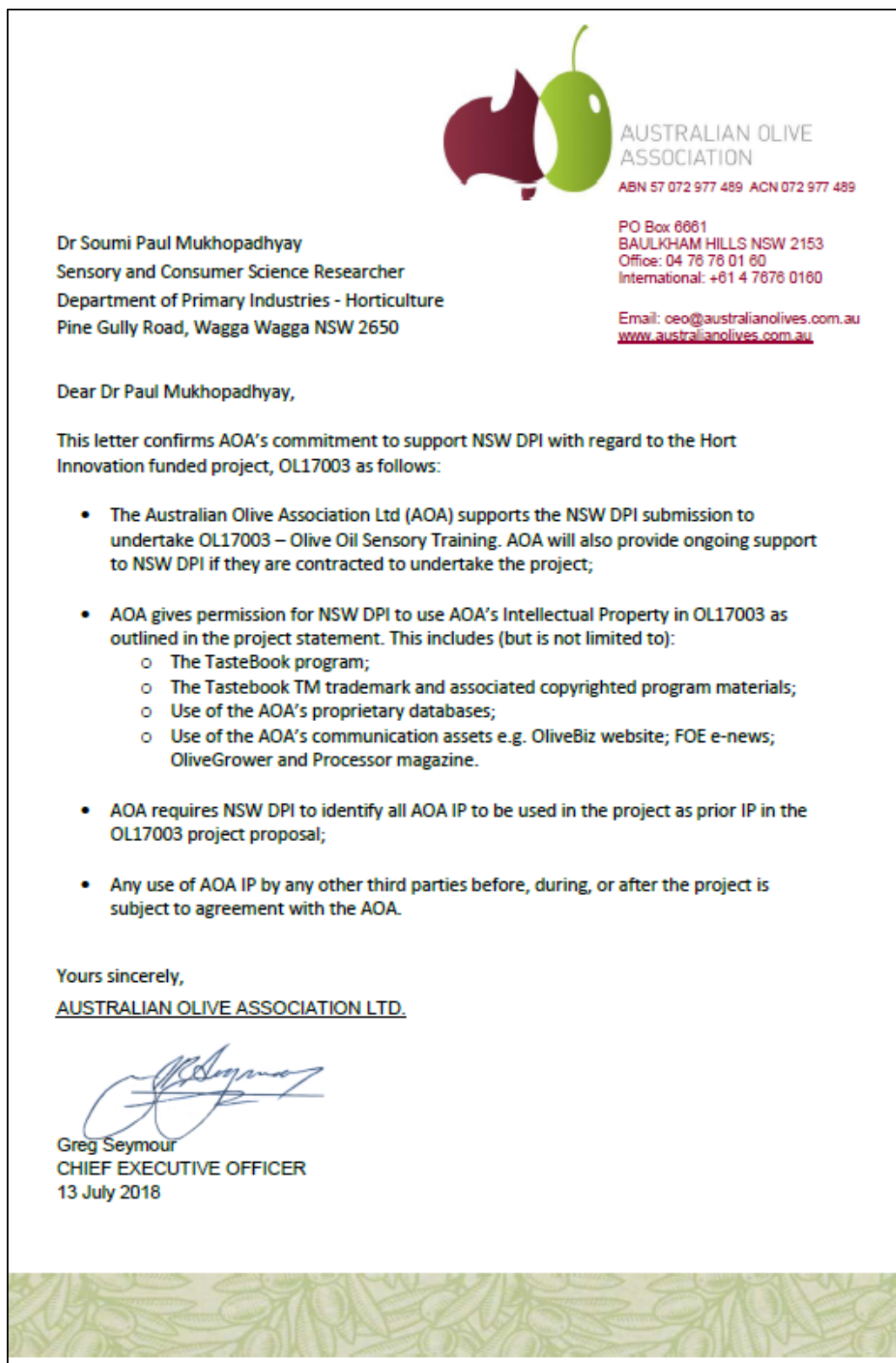
Appendices

The list of Appendices is provided below.

- Appendix 1- A copy of the letter of support from AOA for NSW DPI to use AOA's prior IP in OL17003
- Appendix 2- OL17003 Sensory training workshop details (<https://olivebiz.com.au/sensory-training-workshops/>)
- Appendix 3- Certificate of participation for every participant to keep track of their learning and attendance
- Appendix 4- Pre and post workshop surveys for participants
- Appendix 5- Pre and post workshop survey feedback (in participants' own language)
- Appendix 6- TasteBook® Round 5- Appreciating Picual extra virgin olive oil sensory experience
- Appendix 7- Consumer survey results- Wollongbar Agricultural Research Institute
- Appendix 8- Published industry articles from Australian & New Zealand Olivegrower & Processor magazine
- Appendix 9- OL17003 Project Reference Group Meetings- Agenda and minutes for 3 meetings
- Appendix 10- EVOO TasteBook® training workshop presentation
- Appendix 11- Table Olive TasteBook® training workshop presentation
- Appendix 12- TasteBook® training workshop workbook
- Appendix 13- CONFIDENTIAL- Sensory training program- business and financial model evaluation

Appendix 1:

AOA's letter of support for NSW DPI and the project leader to use AOA's prior IP in OL17003



Appendix 2:

OL17003 Sensory training workshop details (<https://olivebiz.com.au/sensory-training-workshops/>)

Put your senses to work

Learn how to recognise the diverse flavour, aroma and taste attributes of Australian extra virgin olive oil and table olives and what sets the award winners apart from the rest.



A series of TasteBook™ and OliveCare® national workshops to be held across Australia

Dr Soumi Paul Mukhopadhyay, NSW DPI Sensory and Consumer Science Researcher and Peter McFarlane, OliveCare® administrator, are presenting a series of sensory training workshops for extra virgin olive oils (EVOO) and table olives (TO). The program includes TasteBook™ sensory training using EVOO and table olives, olive oil chemistry, freshness testing of EVOO and determining objective best before dates (BBDs) plus so much more. The workshop will benefit olive growers and processors, olive oil judges and anyone wishing to gain a better appreciation for EVOO and table olives.

These workshops will ensure that Australian olive products are consistently of superior quality and ensure that quality message is communicated from the paddock to the plate, by enabling growers, producers and consumers to talk about their sensory experiences in a shared language they are all comfortable with.

To view the full program and to register, visit olivebiz.com.au/sensory-training-workshops



Workshop dates and venues - full details to be advised soon

May 2019
Friday 24, Plant Research Centre, Waite Campus, SA

June 2019
Friday 14, Geelong Library, Geelong, VIC
Sunday 16, CSU, Wangaratta, VIC
Sunday 30, DPI, Wagga Wagga, NSW

August 2019
2 workshops in WA (venues & dates TBC)

September 2019
Friday 20, Adelaide Uni, Roseworthy, SA

October 2019
1 workshop in Hunter Valley, NSW (venue & date TBC)

November 2019 (venues & dates TBC)
1 workshop in Toowoomba, QLD
2 workshops in Tasmania

For more information, contact Dr Soumi Paul Mukhopadhyay on 0409 283 581 or via email soumi.paul.mukhopadhyay@dpi.nsw.gov.au.

This workshop program has been funded by Hort Innovation, using the Hort Innovation olive research and development levy, co-investment from the NSW Department of Primary Industries, the Australian Olive Association and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.



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Appendix 3:

Certificate of participation for every participant to keep track of their learning and attendance



Appendix 4:

Pre and post workshop surveys for participants



Pre-workshop Participant Survey

*Australian Olive Industry Sensory Training –TasteBook™ & OliveCare® Program
Adelaide – 24 May 2019*

Thank you very much for participating in one of the TasteBook™ and OliveCare®- Australian olive industry training programs. We would love to know about your expectations from today's workshop; so that we can better create workshop materials beneficial for you. We hope you could fill out this pre-workshop survey and hand it over to the organisers.

Your name (optional):

Which of the following describes you well? (Please circle the option)

Grower/producer	Olive oil judge	Processor	Olive industry professional
Researcher/academic	Consumer	Olive oil enthusiast	Other

If you have selected other, please explain: _____

Q1. What is your expectation from the TasteBook™ workshop?

Q2. What is your expectation from the OliveCare® workshop?

Thank you so much for your time and participation.

1 | Page

Updated post-workshop survey- The post-workshop survey was updated to combine both TasteBook™ and OliveCare® workshops surveys together and make it more concise and time effective.



Post-workshop Participant Survey

Australian Olive Industry Sensory Training –TasteBook™ & OliveCare® Program

Wangaratta – 31 August 2019

Thank you very much for participating in one of the TasteBook™ and OliveCare®- Australian olive industry training programs. We hope you have enjoyed the learning experience. Your feedback is important, it would be great if you could please fill out this survey and hand it over to the organisers.

Your name (optional):

Which of the following describe you well? (Please circle each relevant option)

Grower/Producer

Olive oil judge

Processor

Olive industry professional

Researcher/Academic

Consumer

Olive oil enthusiast

Others

If you have selected "Others", please explain: _____

Q1. Please rate your satisfaction for the organisation of the TasteBook™ event including workshops, tasting sessions and guest speakers, please circle your responses below:

Not satisfied at all

Moderately satisfied

Neutral

Satisfied

Highly satisfied

Q2. Please rate the usefulness and relevance of the TasteBook™ session; please circle your responses below:

Not useful and relevant at all

Moderately usefule and relevant

Neutral

Useful and relevant

Highly useful and relevant

Q3. What was the most valuable part of the TasteBook™ session?

Q4. What was the least valuable part of the TasteBook™ session?

Please turn over

1 | Page



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Q5. What new information did you learn from today's TasteBook™ workshop?

Q6. What aspects of the TasteBook™ workshop could be improved, if any?

Q7. Have you participated in any previous TasteBook™ training sessions?

- TasteBook™ Post Round 1, 2, 3, 4 ☐
- TasteBook™ Live (AOA 2018 Conference) ☐
- TasteBook™ Post Round 5 ☐

Q8. Please rate your satisfaction for the organisation of the OliveCare® event including workshop materials and presentation; please circle your responses below:

Not satisfied at all	Moderately satisfied	Neutral	Satisfied	Highly satisfied
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Q9. Please rate the usefulness and relevance of the OliveCare® session; please circle your responses below:

Not useful and relevant at all	Moderately useful and relevant	Neutral	Useful and relevant	Highly useful and relevant
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Q10. What was the most valuable part of the OliveCare® session?

Please turn over

2 | Page



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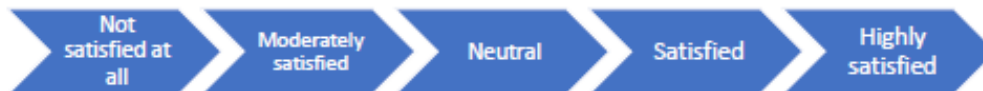
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Q11. What was the least valuable part of the OliveCare® session?

Q12. What new information did you learn from today's OliveCare® workshop?

Q13. What aspects of the OliveCare® workshop could be improved, if any?

Q14. Please rate your satisfaction for the venue and food/catering (morning tea, lunch & afternoon tea), please circle your responses below:



Q15. Do you have any additional comments/suggestions?

Q16. Are you interested in becoming a member of OliveCare®? _____

If so please provide an e-mail contact: _____

Thank you so much for your time and participation.

Please turn over

3 | Page

Appendix 5:

Pre and post workshop survey feedback (in participants' own language)



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Pre-workshop Participant Survey

Australian Olive Industry Sensory Training –TasteBook™ & OliveCare® Program

What is your expectation from the TasteBook® workshop?

Adelaide, Waite Campus, South Australia, 24th May 2019 (19 participants completed the pre-workshop questionnaire):

- To learn more about olives and olive oils through sensory training
- Fundamentals of table olive processing
- Improve tasting skills and exposure
- To learn what is behind a Gold class olive/oil
- I would like to be able to put descriptive more easily with what I am a) smelling, b) tasting on front, middle and back palate; for example, which smell is artichoke, green tomato etc. Similarly, to connect what is described by experts as a really good olive with the actual olive taste.
- Explore range of gustatory senses and improve appreciation of quality olives and EVOO
- To gain some knowledge and understanding
- To improve my tasting skills
- To learn more about tasting and evaluation of EVOO, to recognise and identify faults, to identify varietal and varietal characteristics
- Improve tasting ability
- Already have experience as we grow small amount before
- Introduction to the olive industry
- To better understand all sensory aspects of TasteBook and learn how to describe TasteBook to others
- To learn about how to detect good from bad oils/table olives and how to pick up different flavours
- Increase tasting profile and expand taste repertoire
- Just to find out more about it and its aims; not that interested in table olive assessment
- Develop and improve tasting skills
- Better informed on latest trends
- Improving my sensory skills, learning from others' skills and learning more about quality parameters and how to achieve them

Geelong, Victoria, 14th June 2019 (26 participants completed the pre-workshop questionnaire):

- To learn how to make and assess a gold EVOO
- To learn more about table olives and understand (for interest only) about oil tasting
- To produce and identify the quality of oil
- Oil characteristics-learn what the aromas and tastes actually are
- Deeper understanding of the faults, but more particularly table olives. Further and ongoing education, different views and new info
- Learn about distinguishing oil taste
- To understand and build my knowledge on the sensory characteristics of EVOO
- Gain better understanding of how to produce premium grade oil from a harvest perspective (e.g. timing, fruit ripeness etc); same for table olives; know how to distinguish different oil flavours
- To learn, especially more about table olives
- To increase my knowledge of the olive industry and allow my taste buds to explore

- Increased awareness
- Help develop my palate, understand how to produce a better oil
- To learn something new and network
- Simply to learn more about olives
- To learn about olives
- Learn more about the tastes of oils and olives
- Increase general knowledge around olive oil tasting- what to look for? What makes a quality oil? When to pick for different taste?
- A greater understanding into the taste, look for standards and what other states are doing
- Learning how to recognise good oil, networking
- Concept of differential between good oil and very good oil
- Learn more- difference between bronze/silver/gold quality
- My interest lies in the sensory training- to better understand this. General information about how to produce a gold medal oil also
- Better understanding of how olive oil taste characteristics can vary. Typical taste characteristics and why this occurs- variety/harvesting/storing/processing. Recognising high scoring oils
- My expectations are vague
- Hoping to achieve a better understanding of nuances in flavour and what causes differences e.g. variety, growing and processing methods
- No major expectations, teach me something

Wagga Wagga, NSW, 30th June 2019 (16 participants completed the pre-workshop questionnaire):

- A conversation about EVOO, about table olives, thoughts on tastes, flavours and aromas
- Define taste and grow vocabulary for description of oils, become more consistent
- To learn more about olives
- Better understanding of the taste profiles of olive oil
- To improve and more understanding of the TasteBook program
- Awareness of industry expectations
- Tasting a wider variety of olive oils and especially olives, getting to understand olive tasting criteria's better
- I hope to be able to better identify variety by smell and taste to become a better panel member
- To just go duck and reconfirm that my sensory perceptions are within the guidelines
- To keep uptodate what is happening in the industry, to learn more about table olives
- Tips on what we look for in flavour etc of olive oil and olives
- Learning!! Feedback!! on quality standards good and bad
- To learn
- Learn how to identify the tastes
- To improve my ability to understand quality of product
- More practice re oil tasting and hopefully table olives

Western Australia, 18th August 2019 (24 participants completed the pre-workshop questionnaire):

- Consolidation of olive judging skills
- Build uniform vocabulary and process to describe olive oil and understand how to detect defects. This will improve the overall standard and quality of the olive oil industry
- Refresh judging skills, refresh knowledge of olive oil
- To get a basic understanding of olive oil as my experience has been limited to consumption plus picking olives
- Review my knowledge for judging, learn about table olives
- Practice and improve tasting skills
- To gain knowledge of different oils/olives
- As a person new to olive oil, I am keen to develop a greater understanding of the finer aspects of EVOO

- Further sensory training prior to Royal show judging
- We are still new to this and wanting to learn about how to produce award winning oil and olives
- Learning about different flavours in olive oil
- To be able to determine the type/quality of the oil/best before dates
- To be able to have better understanding of how to taste and how to make accurate notes
- To be able to identify the characteristics of a good EVOO
- Help with oil tasting and describing attributes
- Further my understanding of olive oil tasting
- Fine tune show tasting for EVOO and the difference with tasting for blending
- To improve my oil judging ability
- To learn to differentiate between olive oil tasters
- To learn about the taste and quality of olive oil-what factors affect this. Perhaps olive types suited to WA
- Learn appreciation of good and bad flavour characteristics and production techniques that affect flavour positively/negatively
- Improve technical knowledge of olive oil tasting
- Improve olfactory discrimination, get more in line with other judges
- Learn everything

Wangaratta, Victoria, 31st August 2019 (14 participants completed the pre-workshop questionnaire):

- To taste some amazing oils and the process for tasting
- Increased understanding of EVOO and table olives
- To engage in a workshop on tasting
- Knowledge and shared experience to improve target growing and processing
- To learn about recognising a quality olive oil and ways to develop a quality oil
- Having a sense of how to taste for quality and imperfections in the oil to best support our business
- Learn something
- Identifying characteristics of oils- good and bad; and olive fruit- good and bad
- Learn how to discern quality of olive oil and how to evaluate our own products
- Improve my ability to assess oil quality
- Greater understanding of sensory explanations
- Learn how you come up with the different flavours
- Networking opportunity. Workshop to explore both olive oil and table olives, components of judging and judges' expectations at show

Lovedale, Hunter Valley, NSW, 27th October 2019 (11 participants completed the pre-workshop questionnaire):

- Assess a quality olive oil
- To learn as much as I can on olives, tasting etc
- Expand knowledge, receive feedback immediate
- Increased knowledge and appreciation of olive oil varieties and tastes
- Improved understanding of olives/olive oil and the differentiation between quality/premium/ultra-premium products
- To appreciate better olive oils and table olives and what is best practice
- To learn about what makes a good olive oil, how it is made and how to recognise it by taste
- Improve understanding of differences between different varieties of olive/olive oil and gain language to differentiate
- A better understanding of good and bad olives/oil
- Learn more about the differences in olive oil and how best to use it in cooking
- To learn how to taste and recognise a good olive oil and learn the correct way to actually taste and assess sensory process. Learn the correct terminology to describe accurately

Adelaide, Waite Campus, South Australia, 6th March 2020 (20 participants completed the pre-workshop questionnaire):

- Continual improvement
- Refreshing knowledge
- To learn as much as possible
- To learn as much as possible
- Refreshing knowledge of olive oil tasting plus doing my first olive tasting course
- Expand my knowledge and proficiency at evaluating olive oil and processed olives
- Certification
- Learning and knowledge
- I am hoping to gain knowledge in the industry as I am relatively new to the industry
- To learn about the production of olive oil and also how to taste and distinguish between different olive types
- Further enhance EVOO and table olive understanding and tasting experience
- To learn more about olive oil
- Reeducate palate and tasting ability, maintain memory
- Olive oil appreciation skills education
- Value participants comments, explore the way in which positive attributes are expressed via aroma/palate (both EVOO+ table olives)
- To learn everything about EVOO
- To improve my palate, namely picking different flavours and profiles and how they relate to the creation of the olive oil
- Improve palate, detect faults
- How to tell it is good oil or not

Campbell Town, Tasmania, 29th February 2020 (16 participants completed the pre-workshop questionnaire):

- To feel more confident in my assessment of EVOO's, to strengthen my verbal descriptors, to build my experience
- That I would develop an understanding of vocabulary re tasting and connection between tasting and growing and processing
- Develop a better understanding of what is premium quality organoleptic properties for oil and table olives
- Learning more about appreciation of olive oil and table olives and how to improve production of excellent product; our table olives understanding how to describe what I taste
- Learn something
- Better appreciation
- Learn more about table olive judging
- To learn more about the aromas and how to describe the taste
- To find out more information
- Learn how to identify old vs new oil, good vs bad (adulterated) oil
- To taste a selection of oils and olives with guidance
- Learn about the different characteristics of olive oil
- To help me better judge a good oil
- To refine my ability to understand the taste of olive oil
- Hoping to get a better understanding of evaluating quality in olive oils, also understanding faults in EVOO and how to avoid them



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Post-workshop Participant Survey

Australian Olive Industry Sensory Training –TasteBook™ & OliveCare® Program

Adelaide, Waite Campus, South Australia, 24th May 2019 (21 participants completed the post-workshop questionnaire):

1. What was the most valuable part of the TasteBook® session?

- Olive oil tasting and listening to various opinions and comments
- Very valuable- I would like to have say artichoke on hand or green tomato leaf to smell and then move on to an oil say with those sensory qualities
- Networking and interacting with presenters to quality issues
- Mono variety descriptors I found very helpful
- Interaction with other experienced industry experts and participants
- Trying different varieties to compare flavour and notes
- Retraining taste buds and valuable discussion with participants on all aspects of EVOO and table olives
- Very informative and learnt a lot about olive oil and how to judge it and how table olives are judged
- The tasting
- The open discussion, canvassing a wide range of expertise, comments and questions
- Able to find out that olive can affect weather, climate, container etc. It has different flavours that will affect
- The refresher on tasting was fun and interesting to see others enjoyment
- Vibrancy and passion of presenter and the information they imparted informative and fun ways
- Amazing to learn about how, why and where's of olive oils
- Olive oil descriptors and experience
- All of the session was of value being a person coming from the almond industry to the olive industry
- Learning the names to describe flavours
- Learning varietal characteristics, tasting lye preserved and faulty table olives

2. What was the least valuable part of the TasteBook® session?

- Long introduction- drawing parallels from other experiences- temporary lost audience, should be punchy 3 minute with 1 overhead
- Nil
- Introduction slightly lengthy
- None
- Intro
- The black lye-treated olives
- Able to taste different kind of flavours olive oil and olives
- Peters spill, I found it unvaluable to my experience
- N/A
- All valuable
- Not any part was at low value
- N/A
- No tasting of faulty oils in this session to learn about identifying faults

3. What new information did you learn from today's TasteBook® workshop?

- Yes, tasting skills as first workshop
- Valuable in confirming some of my developing opinions
- Characteristics of varieties- so taste characteristics- greater clarity
- Variety traits were excellent

- Table olive parameters
- Aspects of palate-individual tasting and varietal variations
- A lot of info
- Tasting olives- how to assess
- Yes, lots more about how and why flavours occur in EVOO and how flavour and faults occur in table olives
- Yes, flavours, types, kinds etc
- Yes, I knew nothing about table olives other than I like them
- First time to try, and listen to table olives in a learning environment
- Yes, I learnt everything new today from how to taste oil quality to how they are judged etc
- Everything was new
- How to actuate the smell of the oil
- Yes-varietal characteristics, improvement of tasting technique

4. What aspects of the TasteBook® workshop could be improved?

- All good in my opinion, nothing to compare with first tasting workshop
- I need to go and smell various herbs, artichokes etc- or could some of the exotic ones be brought to the course
- Possibly made up a judging example activity to stimulate actual formal judging for a few participants to give a live example. Possibly use one experienced and a few emerging tasting panelists
- Scale of bitterness etc to compare products i.e. 1-10 scale, fruitiness etc
- Need to introduce scoring criteria
- Very good workshop, very informative
- Better lighting for my photographs!! Shorter intro session; people were itchy to get into it
- It was well organised even it was the first workshop
- Could be more scripted due to overlapping on unimportant info
- Soumi could use a steward to assist, otherwise I cannot think of anything. It has gone very smoothly and enjoyably
- N/A
- I cannot think of any
- N/A
- Tighter timing- shorter intro

5. Do you have any additional comments/suggestions?

- N/A
- Recommend introducing each other at the commencement of the course so we understand each other's experience/backgrounds
- Tables slightly cramped
- Perhaps try forming tasting panels as an experiment in assessing consensus
- No, very well run, thank you
- Great workshop, thanks Soumi. Well done for creating such an open environment for discussion and questioning
- Smooth sailing, well done to all speakers and organisers
- Thank you for making olive oil and olives more known
- Thank you Soumi, Trudie and Michelle for your time and sharing your knowledge. Thanks Kent and Peter for Steward and olives prep.
- Thank you I very much have enjoyed.
- It was valuable to hear from actual growers
- Very satisfied with the content and quality of the workshop
- N/A
- Great workshop-well done everyone involved

Geelong, Victoria, 14th June 2019 (22 participants completed the post-workshop questionnaire):

1. What was the most valuable part of the TasteBook® session?

- Understanding the measures to call oil extra virgin
- TasteBook discussion
- Table olives, but far too little compared with oil
- Tasting oil+ table olives
- Networking, OliveCare presentation
- Tasting the oils and discussion
- Table olives and EVOO sessions
- Claudia's expertise
- Claudia's presentation clarifying the specific parameters of the judging of oils
- Tasting oils, code of practice, oil chemistry etc
- Claudia's session on tasting and various characteristics of oil
- Understanding optimum method all stages: at harvest, processing and oil storage to produce best oil
- Getting some 'direction' on tasting olive oil and the distinction between the 3 key criteria- pungency, bitterness and fruity ness. Taking us through the profiles of bad and great oils
- Learning about defective olive oils, exploring the different EVOO oils and hearing an experienced person's palate ideas. Being able to try different varieties
- Learning about the effects of growing, harvesting, processing and storing on the quality of EVOO
- Discover the varieties for different methods and storage can have an end result
- Understanding terminology within the EVOO industry
- Learn how to taste oils and describe them
- Treatment of olives (handling) and identifying characteristics in oil

2. What was the least valuable part of the TasteBook® session?

- All useful
- Multitudes of stats
- Standardise feedback forms. Set expectations at start, make timing expectations at start of day (i.e. lunch, break times)
- N/A
- A lot of duplication between morning and afternoon sessions
- Perhaps too many sample oils to taste
- N/A
- Whilst very interesting- we don't produce table olives. So, this was of great personal value, but not work related
- Discussion of flavoured olive oils
- Nothing
- Nil
- None
- None

3. What new information did you learn from today's TasteBook® workshop?

- Everything was new to me
- Yes, can't remember
- Yes, but not really relevant to my requirements- table olives
- Yes, plenty, especially regarding table olives. Also, excellent to get a serve of what makes a Gold winning EVOO
- Sensory attributes, language, descriptors
- Yes, table olives
- Yes, basically everything

- Claudia's presentation clarifying the specific parameters of the judging of oils
- Yes, chemical testing and related topics
- Yes, tasting qualities and more confidence when tasting
- Yes, key aspects of storage- importance of pressing process, especially timelines from above to press and malaxing
- Lots and lots. It took my basic knowledge to the next level with respect to sensory analysis
- Sensory, tasting, characteristics of oils and olives. All information given to me was new
- Yes, the extreme importance of processing within the end result of EVOO
- Underlined what I already knew and should do- sediment in tanks
- Flavour, how to taste oils, smell to taste transfer

4. What aspects of the TasteBook® workshop could be improved?

- Went over time
- Need real coffee
- Table olives please
- More great speakers!
- Keep to a schedule (timetable), manage people in audience regarding conversation
- N/A
- More time and analysis on table olives, explanation of how different varieties and processes affect the end product
- N/A
- Presentation notes to and note taking
- Ummm
- I feel it was difficult to detect what others were smelling which is ok but previous courses (different products) offered actual fruits, spices to smell as you smell the product which sensitised your sense of smell, just a thought
- Nothing
- Nil
- None
- None

5. Do you have any additional comments/suggestions?

- Focus on keeping on time
- Table olives please. Give out of towners local info to get to venue- trains, parking etc
- Thanks for having me- amazing workshop
- N/A
- Many people on phone or wriggling in seats
- More detail could be had re table olives and oil if TasteBook was all day, suggest participants don't wear perfumes or cologne like at sushi restaurant in Japan
- There was lots of plastic waste
- N/A
- List of attendees and contact details (if permissible)
- World class presenters, friendly collaborative environment, outstanding venue and catering
- None
- None

Wagga Wagga, NSW, 30th June 2019 (14 participants completed the post-workshop questionnaire):

1. What was the most valuable part of the TasteBook® session?

- Learning together
- Table olive discussion
- Tasting
- Breaking it down and categories from aromas to taste
- A fresh way of descriptive under the divisions- aroma, flavour, mouthfeel from gustation's put
- Assessment of different olives
- Good practice prior to starting judging season
- Taste tasting sessions of oil and olives
- Everything
- The olive oil tasting session
- Detail was sound, quality
- The discussions between participants and presenters
- All of it, the oil section was marvelous- really enjoying the table olive section- judging table olive needs to be discussed

2. What was the least valuable part of the TasteBook® session?

- Nothing, all useful
- none
- None
- Moving too fast (short time left) on olive tasting. I would like opportunity to compare different variety- 1. 2, 3, 4 together and compare in this way
- none
- For me the table olive session as we do not produce table olives
- Nothing
- Nothing
- Not an appropriate question

3. What new information did you learn from today's TasteBook® workshop?

- Yes, plus knowledge and communication of info, plus networking
- Yes
- Yes
- Working towards description of expressing the tastings
- Yes, especially about the requirement of temperature and anaerobic effects relating to Botulism
- Yes
- Salute's faulted oil was very interesting
- Yes I learnt a lot of new things
- Yes, definitely tasting olive oils and what is looked for
- Yes
- Yes
- Yes

4. What aspects of the TasteBook® workshop could be improved?

- I would prefer the table olive first as there is less known about
- Some defective oils
- very good
- Would be good to have the information printed out that is going to be forwarded to us, so we can make our notes alongside the information we want to highlight
- Not improved, but we could have more sessions on- 1. processing, 2. bottling, 3. marketing etc
- Generally, would not change it
- I would like a judge's description to compare what I found

- Timing still tighter

5. Do you have any additional comments/suggestions?

- Thank you for all the trouble you went to
- A great day, find more people to ask to come along, ask the other panel members, go on well, find all the growers, not just members of AOA
- Great workshop, look forward to having another workshop
- Thank you very much
- Thank you- a very informative session
- No

Western Australia, 18th August 2019 (25 participants completed the post-workshop questionnaire):

1. What was the most valuable part of the TasteBook® session?

- Refresher course
- Tasting the olive oils
- The taste tasting of both oil and olives
- Being able to understand how to taste and describe EVOO and table olives
- Learning to differentiate between oils and their qualities
- Interaction with speakers "from the East", the class notes
- Testing oils and olives
- Chemical analysis
- Getting exposure to different types of oil and olives
- Tasting Gold medals oils
- Proper way of tasting
- Going through the various tasting options
- Flavour profiles
- Refresher on olive and EVOO tasting/judging. Understanding background to the TasteBook
- Being able or more information how to judge/or taste olive oil
- Learning about and developing a palate for olive oil and table olives
- Hands on tasting
- Education materials, encouraging participation, comments from participants
- Olive oil tasting
- Revision on information
- Ability to hone oil tasting skills
- Soumi's industry knowledge and her presentations skills
- How to taste olive oil- great for a newbie like me
- Being informed of the positive work the olive industry is doing to promote EVOO
- Tasting practice prior to judging, discussion of each oil/table olive

2. What was the least valuable part of the TasteBook® session?

- Too long, attention span exceeded, rehash of existing info
- Not calibrating with judging of Bronze, Silver, Gold medal oils
- None
- Too many slides with too many words
- Nothing really
- Nil
- I felt it generally talked a bit of specific detail
- Obviously, some difficulty without presentation but Soumi did a great job
- The chemical details of olive oil tasting
- Too much 'in depth' information
- Too much detail in depth- ok for new entrants to olive industry but experienced people-too long

- No video, couldn't understand what was being said
- Tasting table olives (I don't like them!)
- Nothing
- All parts were valuable, maybe promoting the Premium EVOO was confusing

3. What new information did you learn from today's TasteBook® workshop?

- Nil
- Did table olive tasting for the first time which was useful
- How to identify rancid oil
- Importance of checking the actual temperature of room where EVOO is stored, how to taste EVOO and table olives and what descriptors to use
- The range of different aspects and the relation to process that can impact the oil
- Defects as they relate to different stages of growth and and production
- Learning about how to describe the qualities of the oils
- Plenty
- How award-winning oil taste like
- Tasting attributes and examples
- The process of "best before"
- I have not ever had a chance to taste multiple olive oils. It was nice to be able to compare with others
- How to appreciate and evaluate flavours, good and bad
- Table olives
- Range of table olives tasted
- Varietal characteristics
- Enjoyed the tasting of varietal oils
- Information on testing requirements
- All of it
- So much work being done with AOA

4. What aspects of the TasteBook® workshop could be improved?

- Shorter session
- Not enough tasting for experienced judges, need a more advanced course, but good for beginners
- None
- If possible, understand more what makes an award winning EVOO
- My first workshop
- More oil sample to be tested
- Check audio visual equipment prior to seminar commencing
- Better understanding of skill level of participants do direct specific parts of the presentations, e.g. new producers or potential judges versus experienced growers and judges
- To have IT working (an unforeseen event), display was not able to be displayed on the large TV
- (It is a little bit too long.) It would be good to have a chance to roundtable why oils/olives taste better or worse
- Pace, it could move faster
- ? Less information on processing/chemical testing etc
- EVOO judging explanation, scoring and a practical test
- More tasting
- Unfortunate that the IT presentation didn't work and would suggest a trial run before the workshop commenced
- Nothing
- Explain why promoting different levels of accreditation of EVOO
- Resolve technical issues with Projector

5. Do you have any additional comments/suggestions?

- Shorter session with less lecturing and more sample testing
- Too much food at lunchtime, better to have self-serve and finger food, so participants can wander around and talk with each other

- Helpful to have lunch served in separate room to allow people to get up and move around to new surrounding to learning area and provide more opportunity to network
- Too much food- lovely though it was I couldn't eat it all
- Interesting, educational, well presented even without the overhead projector
- Nil
- I did enjoy the tasting, as well as meeting local olive growers. Thank you for the session
- Too much food, I hate seeing so much food wasted
- Too much food- don't have heavy food. Have regular breaks instead of long sessions
- Running a small course for processing or equipment etc
- Food was delicious

Wangaratta, Victoria, 31st August 2019 (12 participants completed the post-workshop questionnaire):

1. What was the most valuable part of the TasteBook® session?

- Criteria for tasting and describing characteristics of oil
- Learning the process of properly tasting, evaluation and appreciation
- Practical experience
- Understanding of oil best before- storage and so forth
- Identifying and tasting the various oils, learning the descriptors, gaining confidence in ability
- Tasting EVOO from various regions
- Understanding the chemical breakdowns and why
- Discussion between presenter and attendees
- Sample assessment sheets
- Linking the outcome of taste to the chemistry of production
- Learning how to do it correctly and what goes into judging
- Applying descriptors to EVOO-describing the taste, what flavours?

2. What was the least valuable part of the TasteBook® session?

- Detailed explanation of chemistry of test results for EVOO
- Enjoyed it all
- Trying to put a name to what I taste
- Infused oils can be really unbalanced and should not be marketed. Agrumato are much better
- sometimes a little too technical
- All the information about range and number in OliveCare talk, a little less information please
- All valuable
- Nothing all was good
- Not enough samples?

3. What new information did you learn from today's TasteBook® workshop?

- Qualities and characteristics of EVOO, requirement for testing, Grove care tips
- It was all new to me as we are just starting out as olive grove owners
- How to assess and evaluate olive oil smell and flavour
- Not much but reinforced a lot of stuff I should know
- Improved my knowledge and increased confidence in tasting, linking taste with science
- Better vocabulary to describe oils
- How old fruit harvested with fresh fruits can change the taste of oil
- Use of words Ultra-Premium and Premium on labels
- Definable terms and understanding of compartmentalising the factors assessing
- Networking, the whole process of judging, growing and processing
- Identifying green or tomato plant/leaf as an attribute

4. What aspects of the TasteBook® workshop could be improved?

- Length of day- bit too much to take in
- It could be a little heavy on PowerPoint, so potentially a varied delivery method? Having said that PowerPoint could be the best method for delivery
- Enjoyed
- all good
- Worked example: actual sample vs. judged results
- Provision of some pre-reading
- At the start more to olives rather than history of presenter
- Samples of extremes to help understand differences i.e. 'fruity', 'robust', 'delicate'

5. Do you have any additional comments/suggestions?

- Would help to do integrated grove management before this one. Will still do that one anyway.
- Great/fabulous
- Not concerned of its value if we follow code of practice, anyway, don't think consumers know enough to look for it
- Conference mentioned often, but no specifics. When/where is it?
- NA
- More olive oil/olive inspired food

Lovedale, NSW, 27th October 2019 (9 participants completed the post-workshop questionnaire):

1. What was the most valuable part of the TasteBook® session?

- Learning what to look for and the descriptors to use
- Understand and evaluating olives/olive oils
- Categories of tasting assessment, quality characteristics, vocabulary
- The tasting
- Detail and relevance to olive growing and production for me. Also, would not realise the value of the Barnea and that the Barnea olive could be cured and tasty
- Opportunity for peer group learning, especially compared to previous TasteBook session when the samples are posted out
- Understanding how to properly taste olive oil and olives
- Technical information explained for the lay person and practical exercises
- Tasting discussion

2. What was the least valuable part of the TasteBook® session?

- It was all valuable
- It was all quite relevant
- All valuable
- ?
- It would be good to have benchmark samples to show the difference in flavour profiles (e.g. low intensity v high intensity oils)
- It would be good to have extreme examples to know what the descriptors relate to. Realised this may not be possible in the time allocated but felt I needed more help understanding the differences between descriptors
- All good

3. What new information did you learn from today's TasteBook® workshop?

- As a beginner, everything was new! Thank you
- Great amount and variety of info. The general knowledge was greatly balanced with detailed specific info
- Vocabulary for tasting oil
- About TasteBook and the relevance to both growers and consumers. Look forward to going home and reading out my notes about it all
- What elements are used when assessing olive oil and olives. Also, what flavour profiles to look for when trying these products
- A better understanding of how to taste, not only olive oils but can be applied to other foods. Understanding the different aspects of "taste" (all the senses)
- A refresher course for me

4. What aspects of the TasteBook® workshop could be improved?

- I can't think of anything
- Mid-week would be best for me
- I would provide samples of olives which clearly demonstrated certain characteristics and describe them. This could provide a partly objective measure for further reference
- Soumi speaks very quickly and sometimes had trouble keeping up. I love her energy and enthusiasm
- More education on oil defects, though this can really only be done well in this face-to-face environment
- Adding benchmark tastings to help beginners identify the flavours
- More help understanding specific descriptors and their differences as some can seem similar

5. Do you have any additional comments/suggestions?

- Start earlier and finish at 4 pm
- Quality and quantity of GF food was excellent. Cheese quickly became cross-contaminated as people spread cheese on lavosh with the cheese knife. I would have liked the workshop email earlier. I had started to think my reservation had been lost when I hadn't heard from you by the Monday before the workshop.
- Just when I thought I had enough (a long day), I would learn something new and interesting
- Very good course- it might be better to split the course for beginners and those in the industry as there is probably too much of a difference in the audience to have properly tailored content

Adelaide, Waite Campus, South Australia, 6th March 2020 (17 participants completed the post-workshop questionnaire):

1. What was the most valuable part of the TasteBook® session?

- Learning about different facets about flavours of oil
- More understanding for me
- Olive oil-different tastes etc
- Tasting award winning oils, table olives
- Group discussion
- Sensory evaluation/test, olive oil fault/defect definition
- Tasting and fault tasting
- Tasting the oil and olives along with the theory
- Variety and product profiles
- Making the organoleptic values so relevant and defining their identities
- Practice EVOO assessment, OliveCare HACCP checklist
- Tasting the olive oil
- Sensory refresh
- Learning more about faults
- Refreshing fault tastes

- Being able to taste and experience different oils

2. What was the least valuable part of the TasteBook® session?

- Learning different taste + aroma descriptions
- Nil-really enjoyed it
- none
- none
- none
- Tasting faulty oil, however, the knowledge is very good
- none
- none
- None
- None
- All good
- None
- All good
- Tasting the faults
- N/A
- Being able to look at the defects

3. What new information did you learn from today's TasteBook® workshop?

- Faults in oil (different), different aromas
- Identify faults
- Understanding the different types of olive oil
- Different oil tastes and processing information
- Clingstone definition
- Semi-dried olives
- A lot, all
- Reinforced past learning
- Defects in oil
- Nil
- Better appreciation of critical tasting
- Oil faults- taste and chemical
- Information on how to describe attributes (tastes of the oil and categories to describe)
- OliveCare status
- How to describe olive oil tasting and faults
- What Garam Masala was

4. What aspects of the TasteBook® workshop could be improved?

- None-very satisfied
- None
- none
- none
- Don't know
- none
- none
- none
- Have resume of production process for each sample where possible
- Nothing left to cover
- None
- The workshop has so much information which I would have found useful to refer to when tasting (i.e. to be printed to some suggestions for tasting notes)
- N/A
- None
- The positive and negative attributes in the workshop booklet should be on a page to an opening, so

participants don't have to flick through pages

5. Do you have any additional comments/suggestions?

- well-presented/great information for newbies
- none
- none
- Too much food
- Tasting sessions should be held one after the other with OliveCare either on a different day or the last session. Sessions should either be tasting or processing/production, not a kind of both

Campbell Town, Tasmania, 29th February 2020 (14 participants completed the post-workshop questionnaire):

1. What was the most valuable part of the TasteBook® session?

- The olfactory contribution to taste
- Learning a bit more about tasting olive oil and olives
- All
- Learning and tasting the difference between extra virgin olive oil and imported olive oil/Squeaky Gate
- Statistical data, opportunity to discuss local growing, lovely pace
- Guided tasting
- All parts were of value
- Tasting in a group
- The Q+A and discussion that, the booklet with info to help
- The presenter was a real expert and great communicator
- Assessment and description of olive oils and table olives- tasting different oils and olives. Different responses from participants
- A much better understanding on how to judge quality and organoleptic description, perception
- Tasting the oil and connecting the descriptors with the tasting experience
- The enhanced understanding of taking time to "get the connect" between the nose and taste buds- especially retronasal connection as it comes back again

2. What was the least valuable part of the TasteBook® session?

- Understanding why Dr Soumi had such a bloody great long name
- None
- It was all great
- All valuable, but a lot of content in a day
- All good
- none
- N/A
- I was losing ability to discern the difference between oils by the 5-6th sample
- I found all sections valuable- this was my first "Taste-book" experience
- Olive fruit- I still struggle with olive fruit

3. What new information did you learn from today's TasteBook® workshop?

- The olfactory contribution to taste; the use of yoghurt as a palate cleanser
- A lot of new information about olives
- Tasting table olives
- That not all olives are disgusting. I got some great ideas for school projects
- Everything was new to me; I find it enormously enriching
- Assessment of table olives- structured format
- Have never done a sensory workshop, so all info was new
- My palate not good

- Lots
- Further knowledge to describe oil and table olives
- Much better ability to recognise and describe olive oil attributes
- The gradation of olives, oils and the categories for description
- The "quiet time" after tasting oil- not slowed down before

4. *What aspects of the TasteBook® workshop could be improved?*

- Can't suggest anything
- Nothing, it was excellent
- Faulty oil tasting before lunch
- Perhaps more time spent on table olives
- All good, new information at each workshop
- Not any I can think of- it is a massive amount of information-very well presented
- I liked the "things to look for."

5. *Do you have any additional comments/suggestions?*

- No, I loved it
- Could have had more time on table olives, however it is only a small segment of the olive industry
- A very suitable venue
- No

Appendix 6:

TasteBook® Round 5- Appreciating Picual extra virgin olive oil sensory experience

Introduction:

TasteBook® is a sensory training initiative by providing a platform to the participants from different levels of judging expertise to have a learning experience. TasteBook® round 5 explored the sensory attributes and varietal nuances of Picual- a variety loved by some but a quandary for others. Picual oil has a high oleic acid content and high stability and as a result it is resistant to rancidity and oxidation. Australian early picked Picual (from green/turning Colour olives) oil has high levels of polyphenols (300-700ppm) with dark green vegetal and tomato stalk/leaf characters. Late picked Picual oil (from purple/black olives) is sweeter and less pungent with more tropical and characters. The Picual oil is very complex in its sensory attributes as its characteristic's changes throughout the ripening stage and depending on what stage the olives are harvested, the sensory experience will be versatile- hence it was the ideal candidate for this round's in-depth varietal experience.

Samples and Methodology:

A total of four Picual EVOO samples were sent to participants within Australia and abroad (South Africa, New Zealand and USA); the details about the samples are in Table 1.

Table 1: Picual EVOO samples- Round 5:

Samples	Description
5A	Grassy Spur EVOO South Gippsland Picual (Victoria), 2018 Australian International Olive Awards (AIOA) Gold medal winner; best before June 2020
5B	Waipara Grove North Canterbury EVOO Picual (New Zealand), 2018 Olives NZ Gold medal winner; best before June 2020
5C	Boundary Bend EVOO Picual (Victoria), 2019 Gold medal winner in Olive Japan International competition, best before May 2021
5D	Otway Olives Picual EVOO Maluka Estate (Victoria)- Limite Release, 2018 AIOA Silver medal winner, 2018 Sydney Royal Gold medal winner, 2018 Gold Golden Olives; best before Oct 2020

Results and Discussion:

A total of 31 participants from national and international arena took part in the current round of the TasteBook® program with 58% representing the enthusiasts/beginners and olive producers. Every participant was asked to taste four samples of Picual olive oil in this round and describe aroma, flavour and mouthfeel attributes with minimum 3-4 descriptors. To visualise better how each sample was perceived and described by the participants (irrespective of their own experience), a comparative analysis of 4 different "word cloud" was developed to summarise the feedback (Figure 1). To read the word clouds easily, one must identify the "size" of the words mentioned inside the cloud- the bigger the size of the descriptor, the more frequent that particular descriptor is repeated within participants' feedback for each sample. All the four Picual samples won one or more awards this year or last year- that was one important consideration while selecting the oils for this round. Sample 5B was the only one from NZ and the oil was characterised by fresh green aroma on the nose, green tomato and grassy, balanced fresh flavour following through to the palate, with complex fruity notes, mild bitterness and pungency, leaving a light buttery aftertaste, peppery mouthfeel and short finish.

All the oils used in this round have more than a year when the samples sent to the participants, except for

sample 5C, which has best before date of almost another 2 years. As sample 5C is very fresh in relation to its harvest and processing time (April 2019), it was interesting to see how the participants described the aroma, taste and mouthfeel. One of the main attributes that participants consistently agree on sample 5C was its freshness- in its aroma and flavour. There were commonalities in sensory attributes across the 4 samples- all of them were characterised by the green aroma (consisting of grass, green tomato), the banana note was prevalent in the aroma and followed through to the palate (although not strong enough). The balance between medium to intense bitterness and pungency are the determining factors for how the oils left a lingering aftertaste in the palate- some participants do not like the lingering bitterness or pungency or both.

When asked about identifying some ways and recipes to use individual Picual oil, the resulting word cloud is very interesting (Figure 2). Sample 5A from Grassy Spur was chosen to be used as “oil”; whereas rest of the oil samples (5B- 5D) had been selected for various usage and recipes. It was great to see the diverse usage of Picual oil depending on the strength of the olive oil flavour, aroma and mouthfeel and how those attributes made the participants think to choose the best way to use them (Figure 2).

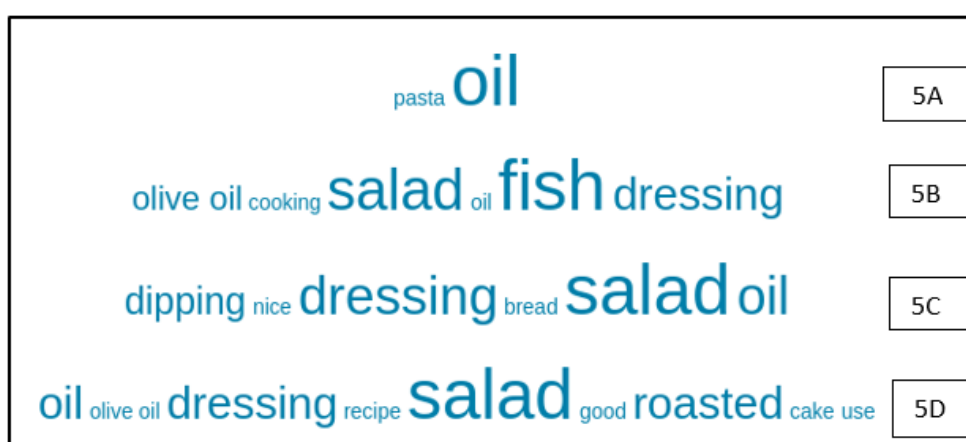


Figure 2: Appropriate recipe suggestions for 4 Picual samples

It is evident from the Figure 4 that, almost 42% of total participants never took part in any of the previous TasteBook® rounds; whereas 26% have participated in all 4 rounds. It is great to see the increased participation from the new members, a significant percentage of them have attended one or more National TasteBook® workshops happening around various states in Australia over the past few months. It is pertinent to continue the training as participation in these online rounds will help the participants from any stage of their judging experience to build their sensory skills and continue updating their knowledge and vocabulary. The numbers of descriptors written by the participants irrespective of their judging experience showed an agreement among them for individual oil and this agreement can be considered as an accomplishment for this program.

It is evident from the Figure 4 that, almost 42% of total participants never took part in any of the previous TasteBook® rounds; whereas 26% have participated in all 4 rounds. It is great to see the increased participation from the new members, a significant percentage of them have attended one or more National TasteBook® workshops happening around various states in Australia over the past few months. It is pertinent to continue the training as participation in these online rounds will help the participants from any stage of their judging experience to build their sensory skills and continue updating their knowledge and vocabulary. The numbers of descriptors written by the participants irrespective of their judging experience showed an agreement among them for individual oil and this agreement can be considered as an accomplishment for this program.

Learning from Round 5 and future recommendation:

The round 5 of TasteBook® program has received many positive feedbacks from the participants about the learning intention, judging criteria, and the training notes provided with the samples. There are a couple of important learnings from this round- the most important one is about the sample presentation and transport. 6

participants confirmed that their one or more oil samples leaked, so this is something that needs to be looked at in detail. As the next round of tasting is focusing on table olives, so it is important to check the lid and the sealing process. There is also a suggestion about including a “Live” could understand and learn how to taste oils and describe them. This feedback is very positive, and this will be used before doing the TasteBook™ round 6 with Kalamata olives- to ensure every participant will get a presentation and video link where the sensory researcher can present how to taste and describe table olives.

The unique opportunity to taste 4 different Picual varieties from different groves was one of the highlights mentioned by many participants and they have enjoyed the comparative tasting. Most of the participants have recommended to receive the full report with their own results so they can compare their scores against everyone and to see how they performed. As a result, the full report will be sent to every participant with their individual report to ensure they have something to compare to for their own learning. Approximately 94% participants would love to come back to the next rounds and that is considered a huge success of this training program.

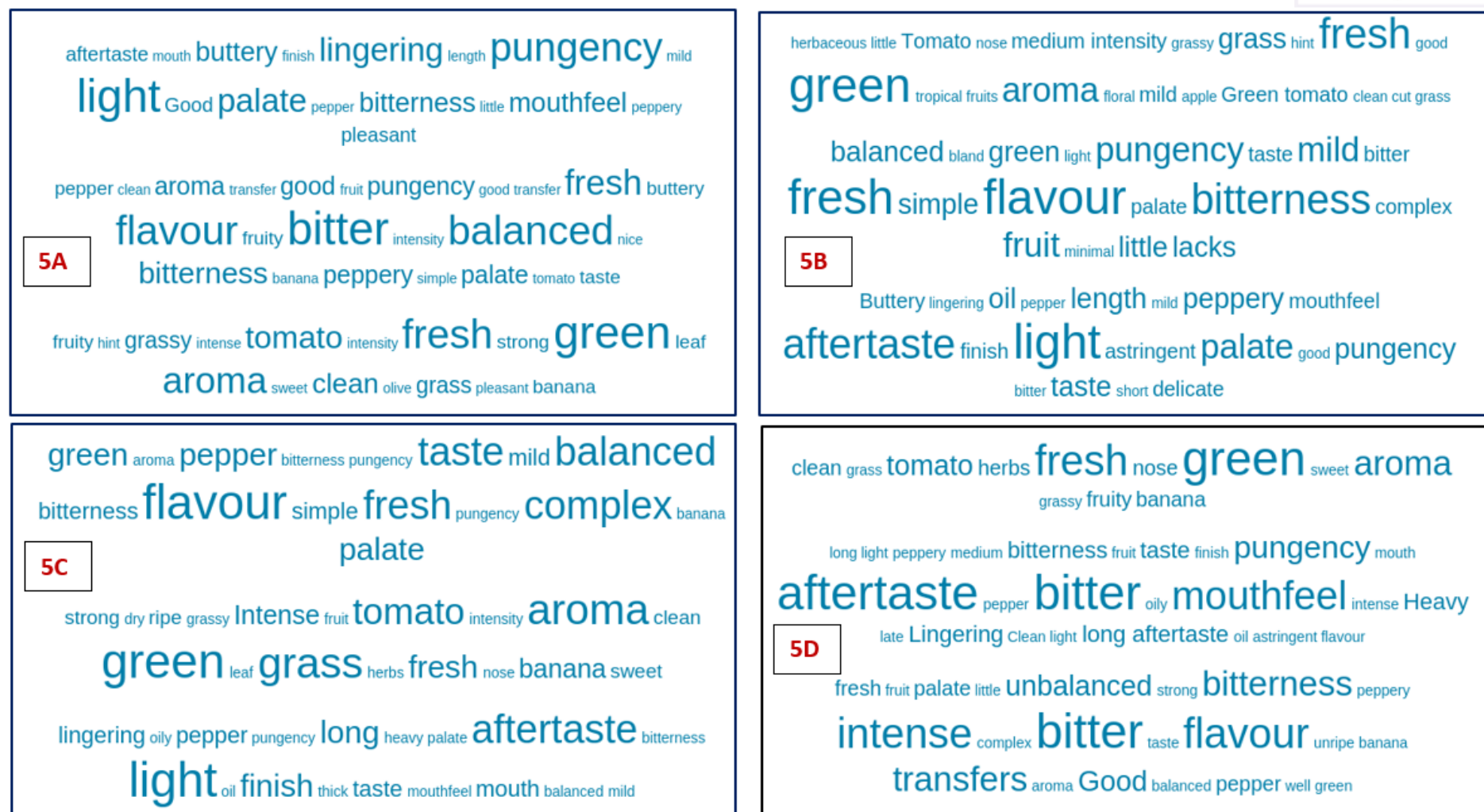
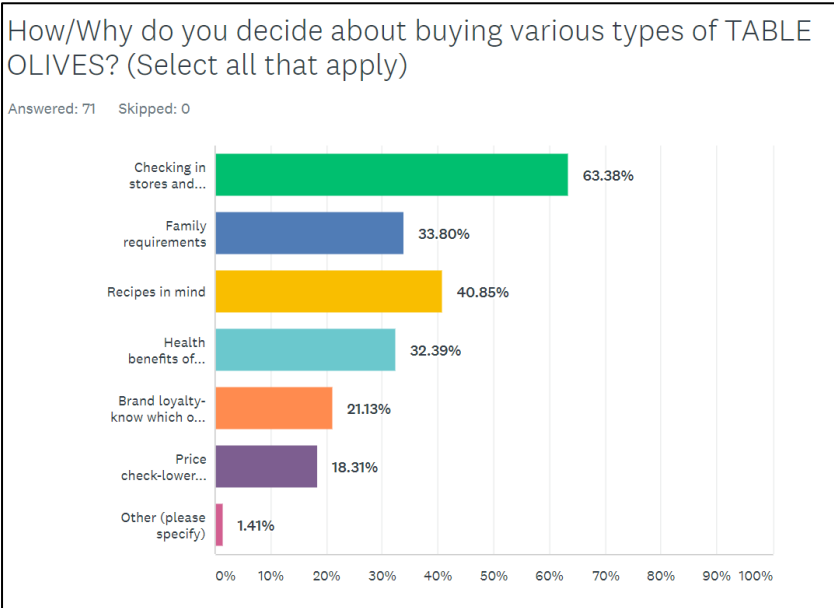
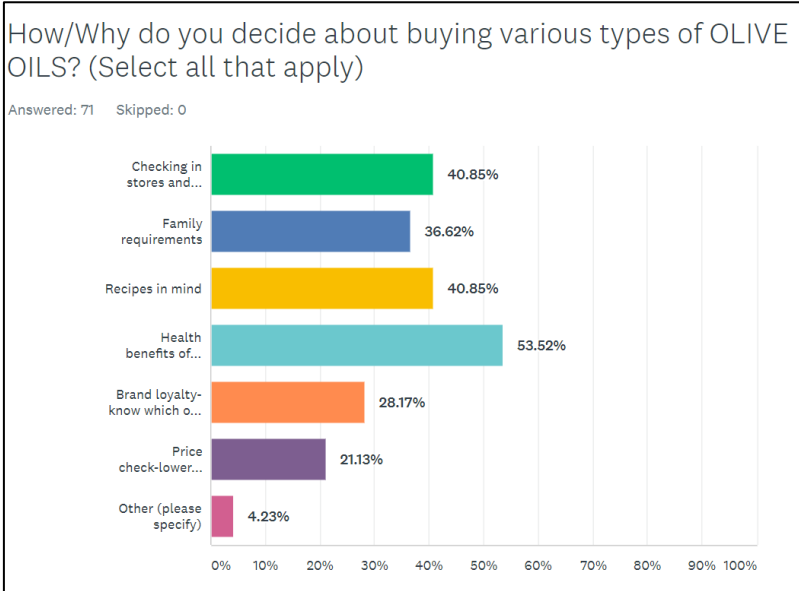
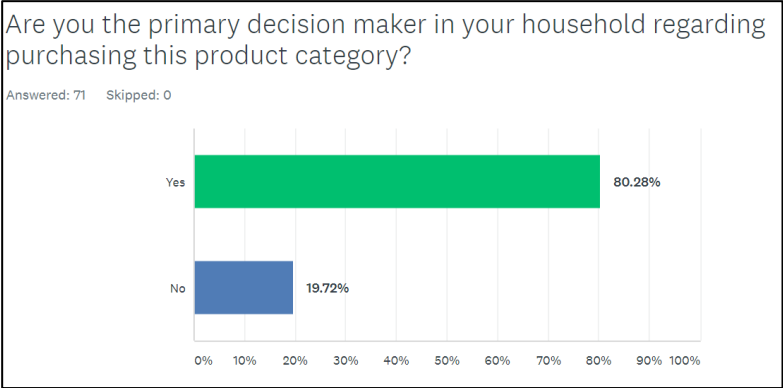
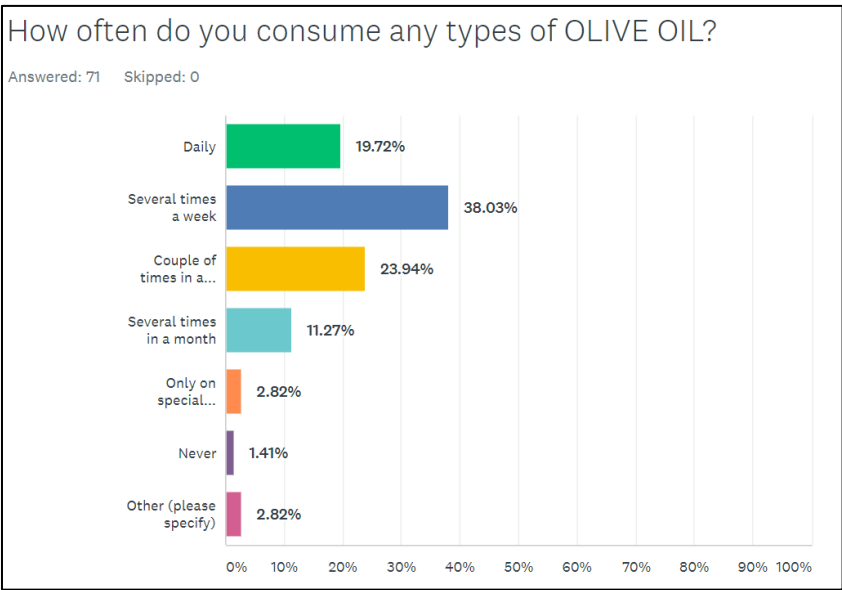
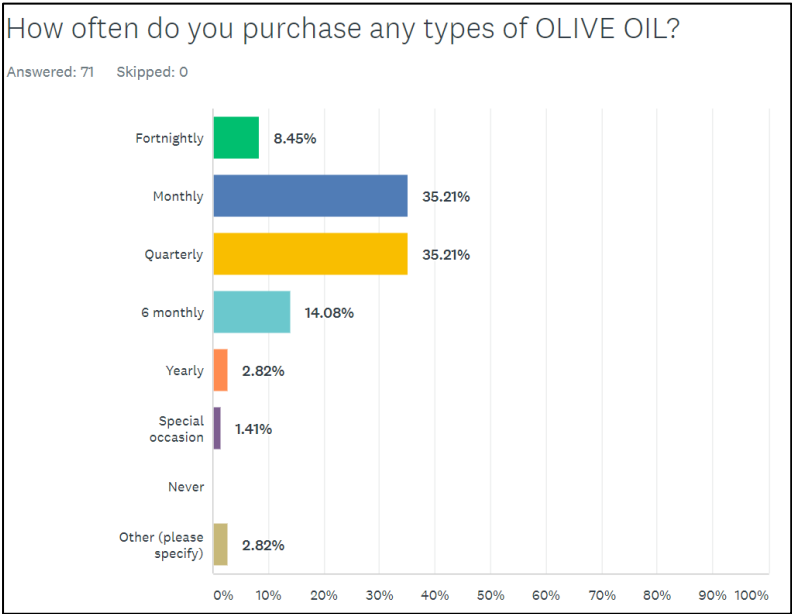
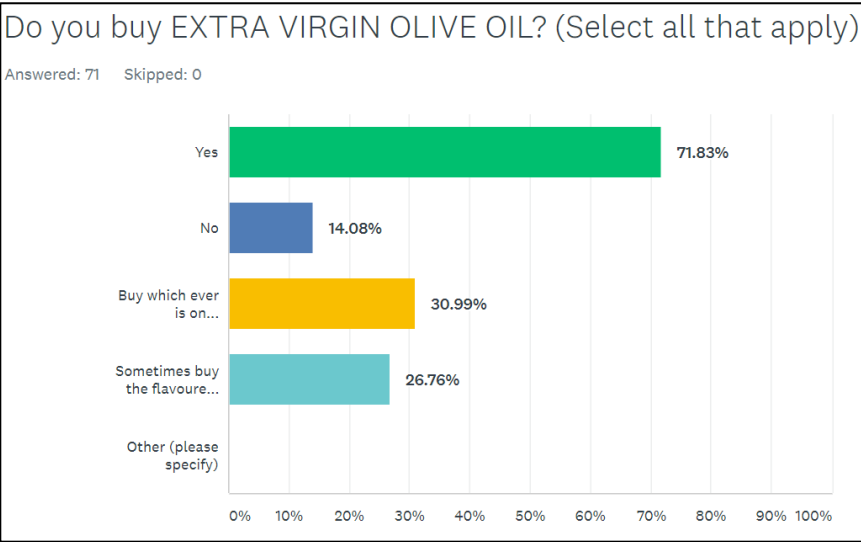


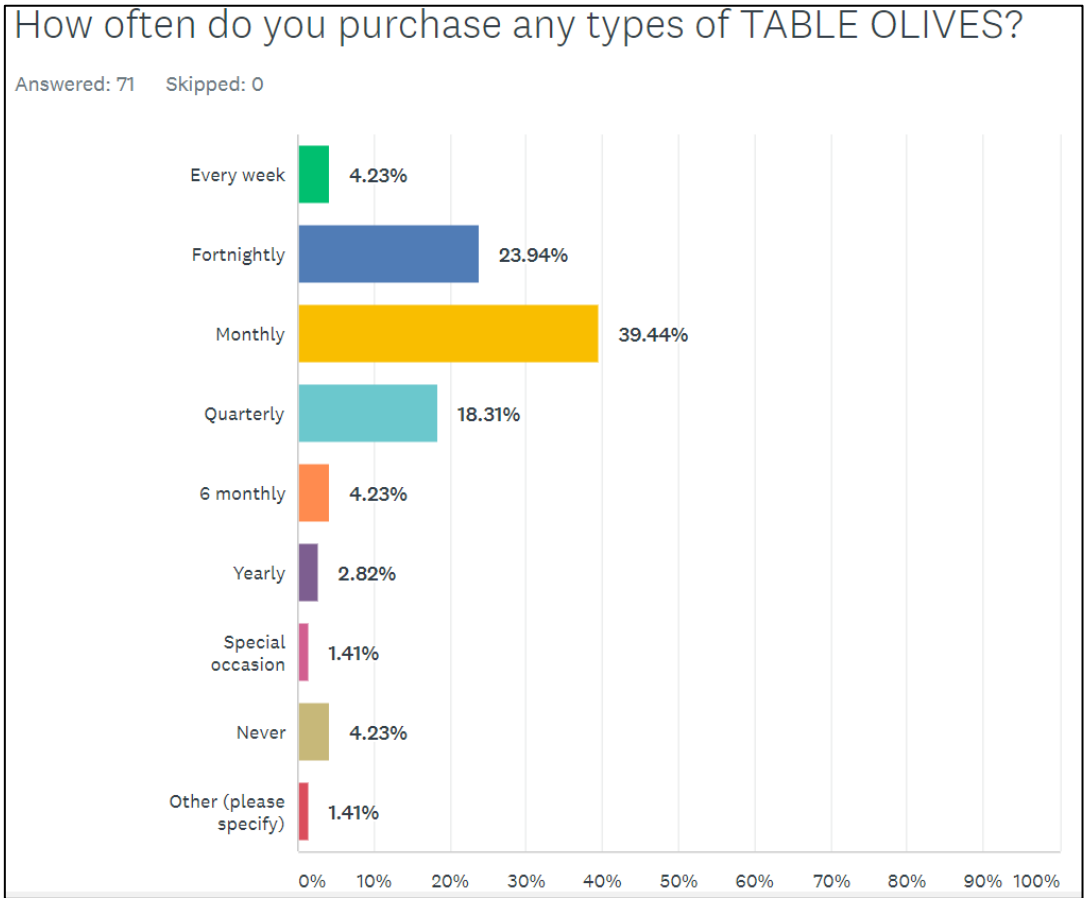
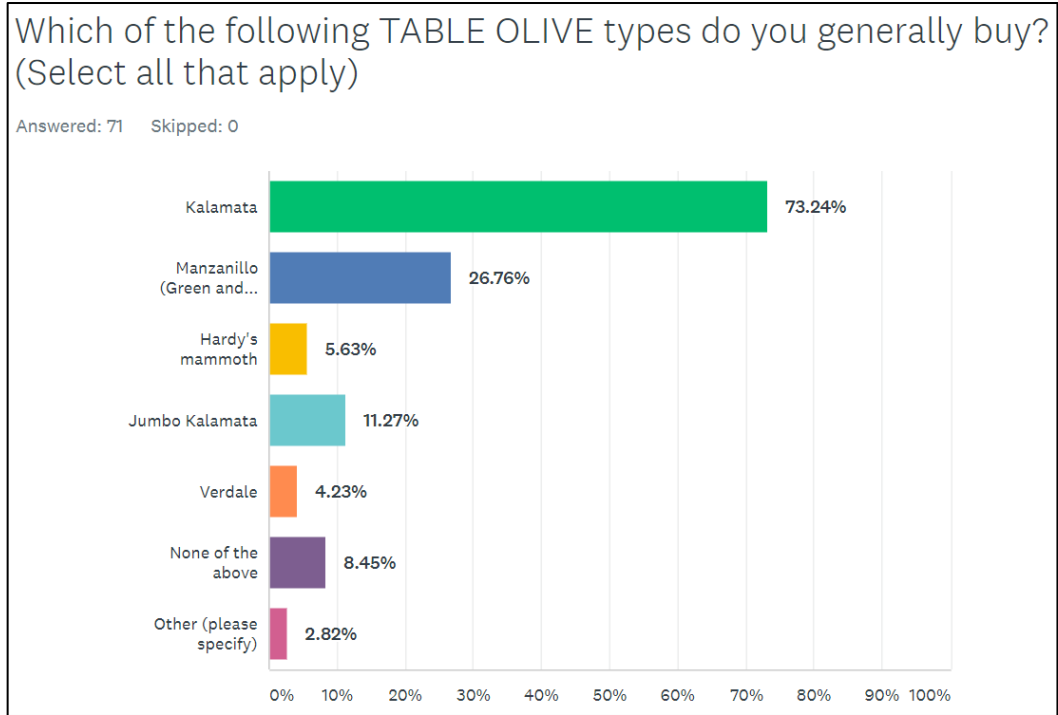
Figure 1: Four samples of Picual extra virgin olive oil (5A to 5D) – Sensory Descriptors

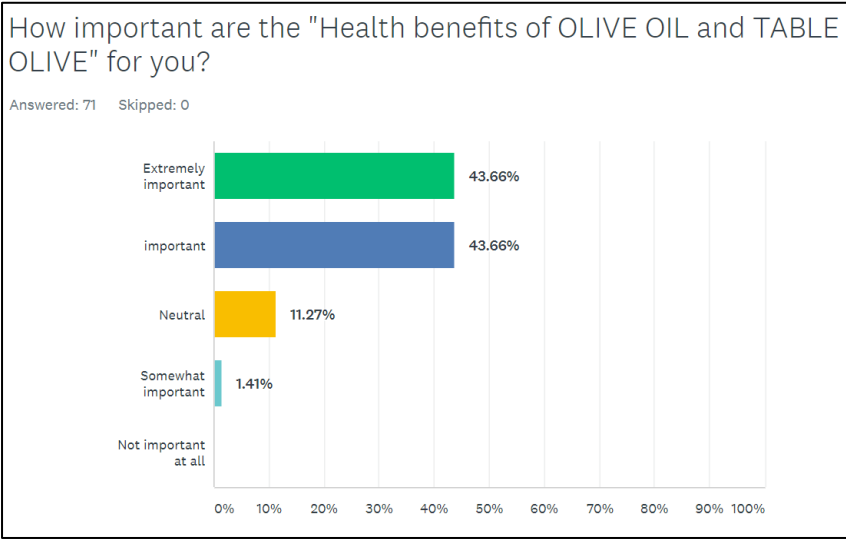
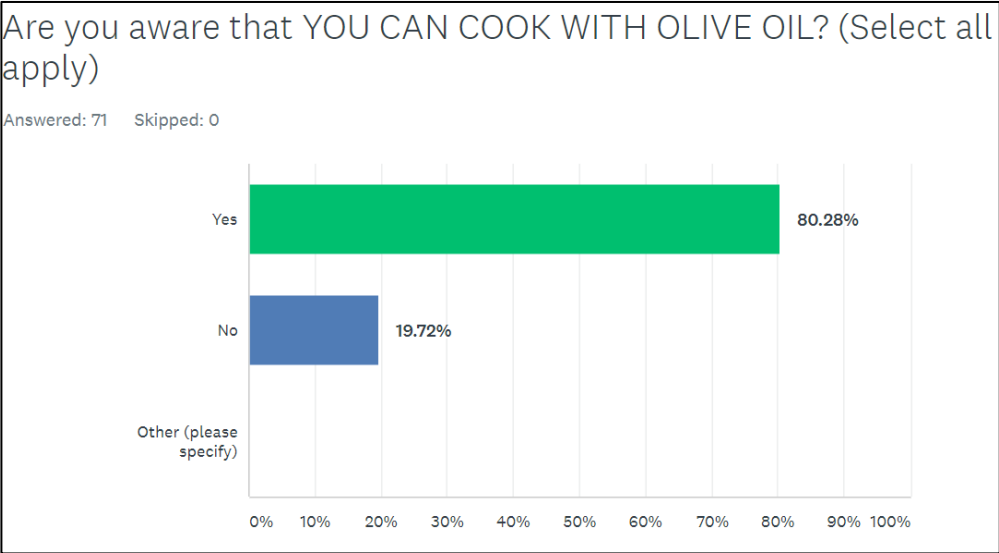
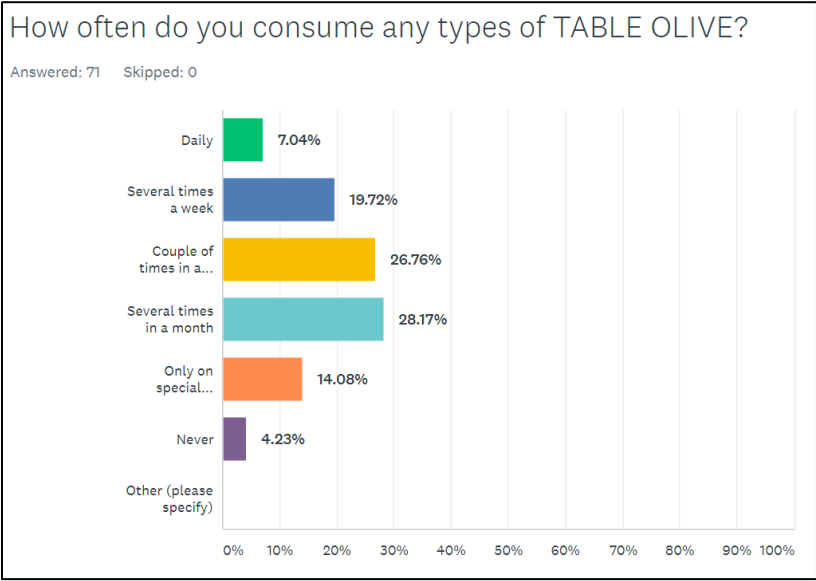
Appendix 7:

Consumer survey results- Wollongbar Agricultural Research Institute









Appendix 8:

Published industry articles from Australian & New Zealand Olive grower and Processor magazine (PDF copies)

2019 National Olive Industry Conference & Exhibition

Sensory training steps up for potential young judges



AUSTRALIAN OLIVE ASSOCIATION



DS Smith

The AOA Olive Oil Young Judges program has taken a step up in technical learning outcomes in 2019, with the addition of sensory training sessions with NSW DPI sensory scientist Dr Soumi Paul Mukhopadhyay.

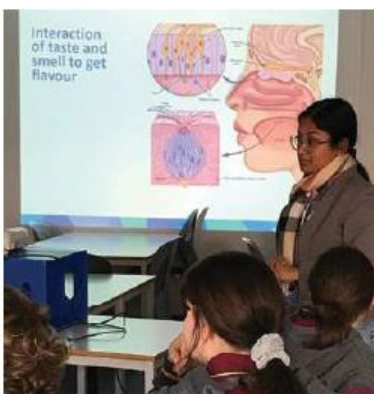
Students from five high schools across South Australia took part in the sessions, conducted as part of the olive levy-funded *TasteBook™* project to increase sensory training skills across the industry and beyond. More than 70 students and 12 staff - including one school's principal - took part across two days in early August, gaining invaluable skills for the 2019 Olive Oil Young Judges Competition.

Program organiser Kent Hallett said the sessions moved through the basics of tasting EVOO, focusing on identifying and describing flavours and aromas, to categorisations of mild, medium and robust in relation to olive oil, and finally to the processes involved in EVOO judging. Tasting EVOOs were provided by Cobram Estate and included two new season international Gold medal winners.

"The aim was twofold: to equip the students to take part in the young judges program this year, and also to increase the knowledge base and expertise of their teachers, so they can take that back to the classroom and share the information with even more students," Hallett said.

"It's relevant to both home economics and agriculture courses, and works in with set curriculum goals, so has been enthusiastically embraced by the teachers."

Hallett said feedback from the sessions has been just as enthusiastic,



Interaction of taste and smell to get flavour

NSW DPI sensory scientist Dr Soumi Paul Mukhopadhyay taking students from Urrbrae High through *TasteBook™* training skills.

"Many students were amazed to learn that EVOO could have so many different and subtle flavour variations, and Urrbrae students were particularly interested to learn about how tasting and flavour in EVOO related to what they had been learning in their winemaking classes," he said.

"They're all now excited about the possibility of entering the 2019 Olive Oil Young Judges Competition and are continuing their training ready to compete."

AOA Olive Oil Young Judges program

Now in its ninth year, the AOA Olive Oil Young Judges program sees students from

SA high schools gain olive oil tasting skills through ongoing classroom training sessions. They then move into the judging arena at the Royal Adelaide Show, evaluating a selection of oils from the Royal Adelaide Olive Awards. Their scores are compared with the official judging results to find that year's Champion Young Judge.

The competition is generously sponsored by industry provider D S Smith - Rapak, enabling the two top ranking students to then attend and take part in the annual AOA National Industry Conference & Exhibition. They also gain further experience via participation at the Australian International Olive Awards and other competitions.

Hallett said the program aims to promote olive oil appreciation and consumption, and also to help students into careers in the olive and food industries.

"By introducing them to the sensory nuances of food, we're providing a pathway for students to move into the competition and then other industry activities, and to discover where those skills might take them," he said.

"One of the first winners, Brooke Purdue, has moved right through that process and has now started her career as a chef, gaining an apprenticeship with a restaurant in the Clare Valley.

"Brooke credits her experiences both taking part in the competition, and as a winner, for helping her achieve this career dream."

Regional Round-up



More than 50 Tasmanian food industry members attended the sensory training session held as part of the Royal Hobart Fine Food Awards postjudging lunch.

Fine Food Awards ‘mini-TasteBook’ a sell-out

The Royal Hobart Fine Food Awards postjudging lunch was a value-added event this year, with guests also invited to participate in a ‘mini-TasteBook’ EVOO sensory training session. Organised by the Tasmanian Olive Council (TOC), the session was run by NSW DPI sensory scientist Dr Soumi Paul Mukhopadhyay, one of this year’s Fine Food EVOO judges.

TOC President Fiona Makowski said Soumi’s level of expertise meant the session was a ‘sell-out’.

“The event guest list included chefs, market gardeners, food producers and sellers, the new CEO of Brand Tasmania and judges in other food categories, and all were invited to attend the sensory training,” she said.

“We more than filled the numbers, and ended up with over 50 people. To have someone with nationally recognised experience is a great drawcard, and everyone was interested to hear what Soumi had to say.”

Using the TasteBook™ training process, Soumi took the group through the technique of tasting oils, then worked through five single varietal EVOOs from both Tasmania and interstate, with input from the other EVOO judges. The guests were then invited to share their experiences, and Makowski said they were keen to do so.

“We had trouble finishing on time, to be honest, because there was a lot of discussion,” she said.

“We had the opportunity to compare things [like a Picual] from Tasmania with a Picual from Victoria, and everybody was amazed and delighted at the varying flavours that you get from different varieties and areas, and from harvesting at different times.”

“The feedback was really positive: they were really impressed by the range of flavours and also the experience of being guided through the sensory process.”

Ongoing benefit

Makowski said for many of the guests, it was both a great learning experience and the start of a new interest in the nuances of EVOO.

“People were delighted to have been asked to something that was a bit different, and anyone involved in making or selling food gains a lot from the opportunity to think about sensory evaluation in a formal way,” she said.

“The fact we were able to attract such a wide group of people with such a high level of clout in the Tasmanian industry was really valuable, and if we want to invite them to other industry events we’ll get a positive response because they really enjoyed it. Some have

already said they want to know more and would love to come to the TasteBook™ workshop in November.

“I’ve no doubt it will feed out into increased interest in EVOO varieties and regions.”

More information: www.tasmanianolives.com.au

Thunderbolt's Olives/Gwydir Grove Complete Dispersal of Olive Processing and Harvesting Equipment.



Located at “Loch Lomond”, 40 km east of Moree, NSW (grove sold to adjacent pecan farm)

- 2015 Colossus Harvester 4400 hours
- 2007 Amenduni 5 tonnes/hour olive oil processing plant with talc and enzyme dosers
- Bottling Line including filler cap and labeller for Marasca bottles
- Newell fibreglass table olive tanks and bases 1 x 10 tonne & 4x6 tonne.
- Associated table olive handling equipment.
- Stainless steel oil tanks 6 x 22,000 L, 1 x 10,000 L, 2x 7000 L calibrated settling tanks
- Various smaller stainless steel tanks and pumps.
- Laboratory and testing equipment.
- Various other olive associated equipment.

Contact Peter Birch 0428 669 157
peterbirch00@bigpond.com



**World Congress on Oils & Fats
& ISF Lectureship Series in 2020**
9-12 February 2020 | International Convention Centre | Sydney Australia

Australian olive industry shines at WCOF2020

The World Congress on Oils & Fats 2020 (WCOF2020) saw research scientists and industry participants from across the globe gather in Sydney for a four-day event focussed on all things fats and edible oils.

As one of the event co-hosts, the Australian Olive Association (AOA) worked with Dr Matt Miller to organise and deliver sections of the event program, which featured presentations from a range of olive industry experts and organisations.

AOA CEO Greg Seymour said the Australian olive industry was well represented, both by local scientific experts and our quality olive products.

"There was plenty of Australian input into the event, particularly on the technical side, all of which was received very well," he said.

"Boundary Bend Technical Director Leandro Ravetti gave a great presentation, as did Claudia Guillaume from the Modern Olives lab, Jamie Ayton from the NSW DPI testing service and AOA President Emeritus Paul Miller. Australian oil chemist Rod Mailer also did a sterling job as event chair.

"The Mediterranean Diet workshop was a cracker, and provided wide-ranging information on the proven health benefits of EVOO, in particular emphasising olive oil and its effect on the brain. Dr Catherine Iliopoulos, a long-time promoter of Australian EVOO, was heavily involved and NSW DPI sensory scientist Dr Soumi Paul Mukhopadhyay, who runs the AOA's TasteBook™ program, wrapped up the event with a sensory workshop."

Showcasing Australian products

Soumi said the hour-long workshop was also very well received – as were the award-winning olive oils and table olives presented.

"I took them through seven top Australian products, two EVOOs, three table olives and two flavoured oils, all gold medal-winners from the 2019 AIOA competition," she said.

"More than 80% of the participants had eaten olive oil but not tasted it as a sensory exercise, so it was very different for them actually learning how to taste, and about the sensory attributes which differentiate a gold medal-winning oil.

"They came away with a real appreciation of Australian olive oil and table olives, and the next day a number approached me to find out how they could order the ones they'd tasted."

"It was a really good promotion of the quality and flavours of Australian products, and I was proud to be presenting them to an international audience with such a specific interest in edible oils."

Tribute to Dr Christian Gertz

Seymour said another significant element of the event was a panel session with German scientist Dr Christian Gertz and three prominent Australians involved in the development of the Australian olive industry: Paul Miller, Leandro Ravetti and Jamie Ayton.

"We have had a long and truly valuable relationship with Dr Gertz and were fortunate that he made his second journey to Australia for this conference," Seymour said.

"Paul, Leandro and Jamie were each connected in various ways with the introduction of Christian's research on the methods for determining quality over time into the Australian olive oil industry; and the subsequent development of the Australian Standard for Olive Oil and Olive Pomace Oil (AS5264-2011).

"It was therefore fitting for the Australian Olive Association to take the opportunity to personally acknowledge the contribution of Dr Gertz and his colleagues in the development of the Australian Olive industry as we know it today.

"On behalf of the Australian olive oil industry (and all honest producers and marketers of high quality EVOO around the world), we thanked him for his contribution to the science of olive oil and for the methodology he developed and championed that has helped the Australian industry to position itself globally as a consistent high-quality producer of EVOO.

"The reliable shelf life prediction which was developed from that research has enabled a consumer-focused approach to certification and marketing in this country, which has in turn resulted in a significant gain in retail market share for Australian EVOO producers. It also provides a sound commercial platform for the continued development of the olive industry in Australia and overseas.

"We believe that this is a massive win for consumers worldwide and for those producers who truly pursue quality and authenticity."



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Australian Olive Industry Sensory Training (OL17003)- 1st Project Reference

Group meeting- Agenda

Thursday 19th Sept- 14:00-15:00 p.m.

Meeting Chair: Dr Soumi Paul Mukhopadhyay, Project Leader

13:55 Logon to web conferencing facility

14:00 Meeting Commences.

Welcome, attendance/ apologies, introductions, governance, meeting papers,

14:10 Purpose of meeting and procedure for meeting, issues not covered in the agenda/papers.

14:15 Review of activities undertaken since the project commenced

14:30 Review of activities planned to be undertaken up until December 2019

14:40 Questions and discussions within the committee

14:50 Summing-up of meeting and scheduling the next meeting

15:00 Meeting close

Overview of Roles and Responsibilities for Project Reference Committee members

Role of the Project Reference Committee

The role of the committee is to provide feedback on planned activities and work already undertaken in the project at teleconference held during the life of the 1-year project. The responsibility of each group member is to read the pre-meeting material and actively participate in each teleconference to provide constructive feedback on the project. Time requirement for project reference committee members is about 1 hour preparation time and 1 -1.5 hour teleconference time every three-six months.

About Project OL 17003

NSW Department of Primary Industries (DPI) is the contracted service provider for OL17003. A background and summary of the project is provided to the committee members.

Teleconference Details and Procedure

OL17003 PRG meeting will be held using NSW DPI's teleconferencing facility which provides voice only or voice and video capability. Meetings will be chaired by the Project Leader. The agenda for each meeting will cover the following:

- review of the previous three months of project activity;
- review of proposed activity for up-coming three months;
- general feedback

Australian Olive Industry Sensory Training (OL17003) – 1st Project Reference

Group meeting- Minutes

Thursday 19th Sept- 14:00-15:00 p.m.

Meeting Chair: Dr Soumi Paul Mukhopadhyay-Project Leader (NSW DPI)

Others Present: Mark Hickey, Matt Adkins, Peter McFarlane, Michelle Wirthensohn, Michael Thomsett, Jemma O’Hanlon, Claudia Guillaume, Kent Hallett, Michelle Freeman

Apologies: Isabelle Okis, Fiona Makowski, Shane Cummins

Mark is retiring at the end of the month and this would be his first and last meeting for the OL17003 project; Matt Adkins was present to understand the project and its relevant contents.

Welcome, program aims and delivery outputs

SOU MI welcomed the committee and stated the program aims and delivery outputs as follows:

OL17003: “Australian olive industry sensory training” program aims to:

- Improved knowledge and skills of the nationally and internationally accredited olive oil sensory panel in and around Australia.
- Enhanced knowledge and awareness of the new entrants, olive oil enthusiasts, and identified stakeholders from the Australian olive industry with the required sensory assessment skills to confidently undertake organoleptic assessment of EVOO and TO and ensure the consistent delivery of a quality product.
- Increased participation in National sensory training workshops and TasteBook™ online trainings.
- Increased industry skills and capacity through adoption of industry best practice for sensory evaluation of EVOO and table olives across the supply chain.

The project will help Hort Innovation and the olive industry deliver on:

- **Outcome 1** of the Olive Strategic Investment Plan: *“Improved on-farm productivity, sustainability and product quality”* using the key strategy: *“Promote world-best practice in olive oil production, storage and packaging to maintain quality and increase consumer confidence”*; and

- **Outcome 3** “Greater skills, capacity, and knowledge in the industry” and the key strategy to drive it: “Communicate and extend outcomes of industry R&D”.
- The project will also inherently facilitate other outcomes and strategies in the SIP through engaging with current R&D project, specifically: *OL17006*.
- As leader and facilitator of this Project, NSW DPI will liaise with AOA to communicate and extend outcomes of levy funded research and development to Australian Olive Levy Payers in a variety of ways that will help to enhance their skills, capacity and knowledge. NSW DPI with the continuous support from AOA will disseminate, in a timely manner, information that provides the best opportunities for growers to avail themselves of existing and emerging research which will help them to adopt best sensory training materials and practices for their business.

The activities undertaken since the project commenced

Project Planning (completed): Including preparation of Monitoring & Evaluation (M&E) Plan, Program Logic, Risk Management Plan, Stakeholder Engagement Plan, Annual Work Plan and establishment of a Project Reference Panel.

Establishment of a detailed program for National workshops (completed) which has been published in the AOA OliveBiz website. Thankful for all those in the AOA that have helped to deliver the workshops (Greg Seymour, Michael Thomsett, Peter McFarlane, Elizabeth Bouzoudis).

Completed five workshops so far: Adelaide, Geelong, Wagga Wagga, WA, Wangaratta.

- Guest speakers have been very beneficial (Claudia Guillaume, Shane Cummins, Michelle Wirthensohn, Jamie Ayton, Isabelle Okis). The experts in each state have been included and recognized. Want to focus on inclusiveness in the program – it encourages participation in the room from everyone.
- Have had over 100 participants so far.
- More than 80% of surveys have been completed – pre and post workshop surveys.
- Aim to deliver each workshop better based on the feedback received during the pre and post workshops surveys collected.

TasteBook Round 5 has been completed. Four different Picual oils were used (including 1 from NZ and 3 from Australia). Forty people participated. Results will be published in the December in the *Olivegrower & Processor* magazine.

Delivered the Young Judges program at the invitation of Olives SA. There were five high schools involved with 72 students and 12 teachers. Focused on EVOO. While this was not initially part of the project plan, it fits in given its focus is on training young people on the different nuances and sensory attributes of olive oil and making them aware of how good Australian olive oil is. Next year will aim to also add table olives and reach out to more schools in SA and other states. Soumi acknowledged the immense support she has received from Kent and Michelle Freeman for carrying out the Young Judges Program.

Kent Hallett confirmed that the Young Judges program has been done over the past nine years, getting high school students to come to the Royal Show and judge them on how well they judge the olive oil. There was a lot more interest and enthusiasm from students and teachers after having done the program with Soumi.

Invited to judge at the Tasmanian Fine Food Show. Ran a mini TasteBook Live across all food judges. Almost 60 judges came from tea/coffee/preserves/dairy/olive oil. It was captured well in the media (television and radio) which helped to promote the Tasmanian November planned workshop.

Invited to Wollongbar Agriculture Institute for celebrating DPI NSW's 125 year anniversary to run consumer testing extension activity. More than 100 people came to taste olives and table olives. More than 70 participants filled an online survey which helps in understanding things such as: olive products consumption, who is the household decision maker, demographics, what is important to them in terms of olive oil flavor. The survey results will be added to the project report.

Comments and Feedback from the Project Reference Committee

Peter McFarlane commented on the following three aspects of the workshops so far:

1. In other training programs such as those conducted by Claudia, a lot of detail is provided regarding the organoleptic assessment, including production and processing issues. In the Sensory Training workshops, the OliveCare section of the workshop provides the technical background. In this regard the workshops are not just about tasting, it's about understanding how you can get a better product. This is less relevant to participants who are not producers, however, would argue if going to be a good judge, you need to know your subject as well.
2. Mixed audiences' issue in managing workshop expectations. Most participants are growers, however, in WA, there was a high proportion that were judges, including

non-producer judges. There may have been some misunderstanding about the objectives of the workshop – they had other expectations of the workshop. Need to try to address this for the remaining workshops.

3. Due to time restraints, there has been a focus on EVOO focus rather than table olives. While there is sensory tasting of both, unable to provide table olives OliveCare information. With the forthcoming Roseworthy workshop, will change the technical presentation to be about table olives as already covered EVOO in SA in the first workshop.

Soumi further commented that as presenters both she and Peter McFarlane are continually growing. From a sensory perspective cannot do more than 8 or 9 oils in the two hours given. Between 9am – 11am, do the tasting part as palate is still fresh in the morning. Changed the workshop schedule after Wagga Wagga to allow for a better flow with the topics covered – table olives tasting is now in the afternoon to provide a clear break from the morning EVOO tasting.

Review of activities planned to be undertaken up until December 2019

- Four more workshops have been scheduled: Roseworthy, SA and Hunter Valley NSW in October and Tasmania and Queensland in November. The project aim has been to visit each state once or twice based on demand.
- TasteBook Live at the AOA conference. Will aim to bring some defective oils based on expectations of workshop participants to date on better understanding olive oil defects. Will also bring award winning oils and table olives from the AIOA.
- Will visit New Zealand to judge at the Olives New Zealand EVOO Awards. Have been asked to have a mini TasteBook discussion.
- TasteBook Round 6 will include four different Kalamata table olives and the advertisement and the relevant promotion will be starting soon.
- Looking to tap into the expertise of Claudia and Michelle for writing some papers and peer reviewed articles on aspects of this project and other sensory aspects that intrigue people with the aim of developing some really good metrics that help Australian olive industry.

Questions and discussions within the committee

Michael Thomsett asked about the strategy to handle the expectations of the workshop participants. The committee agreed that need to be clearer in the marketing of the workshops about who is being targeted to minimize misguided expectations.

Soumi confirmed that she will review the communications being sent and will send a draft advertisement early next week to the committee for their comment for future promotions.

McFarlane commented that there was a high level of interest in table olives. In late November/December the AOA will be presenting a series of workshops on table olives with Linda Costa from South Africa; which will cover faults by way of explaining how not to process olives. This will take pressure off having to do more on table olives in the sensory workshops.

90% of workshop participants learn a lot, many come from a low base. Essential training 101 – don't need to project that it's a high-level course.

The question was raised if there was an opportunity to promote other training opportunities during the workshops. McFarlane confirmed that as well as in OliveCare News, some of the issues raised in the workshops end up in Friday Olive Extracts and *Olivegrower & Processor* for wider distribution.

Soumi confirmed that she is sending emails of upcoming workshops directly to previous participants to share within their networks.

Claudia confirmed that need to consider the short time frame in the workshops for delivering content. At Geelong, the knowledge gap was quite big – from not knowing anything to knowing a lot. Very challenging to fulfil expectations based on large amount of content to deliver.

Jemma commented that it was positive that the aim was to improve on each workshop based on feedback received (continuous improvement) and that she learnt a lot from the Geelong workshop. She also suggested Soumi to bounce back ideas with the project reference committee and ask for support when she needs them. Soumi will send a doodle poll at the start of November within the committee to decide a date for next meeting either in the end of Nov or first week of Dec; Jemma suggested trying Zoom for the next meeting, so that everyone can see each other.

15:00 Meeting close

Australian Olive Industry Sensory Training (OL17003)- 2nd Project Reference

Group meeting- Agenda

Thursday 19th Dec- 11:00-12:00 p.m.

Meeting Chair: Dr Soumi Paul Mukhopadhyay, Project Leader

10:55 Logon to web/video conferencing facility

11:00 Meeting Commences.

Welcome, attendance/ apologies, introductions, governance, meeting papers,

11:10 Purpose of meeting and procedure for meeting, issues not covered in the agenda/papers.

11:15 Review of activities undertaken since completing the first PRG meeting

11:30 Review of activities planned to be undertaken up until March 2020

11:40 Questions and discussions within the committee

11:50 Summing-up of meeting and scheduling the next meeting

12:00 Meeting close

Overview of Roles and Responsibilities for Project Reference Committee members

Role of the Project Reference Committee

The role of the committee is to provide feedback on planned activities and work already undertaken in the project at teleconference held during the life of the 1-year project. The responsibility of each group member is to read the pre-meeting material and actively participate in each teleconference to provide constructive feedback on the project. Time requirement for project reference committee members is about 1-hour preparation time and 1 -1.5-hour teleconference time every three-six months.

About Project OL 17003

NSW Department of Primary Industries (DPI) is the contracted service provider for OL17003. A background and summary of the project is provided to the committee members.

Teleconference Details and Procedure

OL17003 PRG meeting will be held using NSW DPI's teleconferencing facility which provides voice only or voice and video capability. Meetings will be chaired by the Project Leader. The agenda for each meeting will cover the following:

- review of the previous three months of project activity;
- review of proposed activity for up-coming three months;
- general feedback

Australian Olive Industry Sensory Training (OL17003) – 2nd Project

Reference Group meeting- Minutes

Thursday 19th Dec- 11:00 a.m.-12:00 pm

Meeting Chair: Dr Soumi Paul Mukhopadhyay, Project Leader (NSW DPI)

Present: Peter McFarlane, Fiona Makowski, Liz Bouzoudis, Michelle Wirthensohn, Jemma O'Hanlon

Apologies: Matt Adkins, Michael Thomsett, Claudia Guillaume, Shane Cummins

Draft advertisement

All agreed that no changes are required to the wording of the Sensory Training and TasteBook® 6&7 advertisements. Liz/Soumi to now add to Eventbrite, OliveBiz and promote.

Project activity summary to date

Soumi talked through the meeting document: **Project activities completed from 19th Sept 2019 till 19th Dec 2019**

- Invited as judge for 2019 Hunter olive oil show judging
- Invited as an international judge for 2019 New Zealand EVOO awards
- Conducted 2 more TasteBook® workshops in:
 - Lovedale, NSW
 - Albury- as part of the 2019 National Olive Conference Masterclass
- Conducted a mini TasteBook® workshop with NSW DPI Horticulture team to increase the awareness of diverse sensory attributes of EVOO and table olives
- Completed and published results from TasteBook® round 5- Picual in Australian & New Zealand Olive grower and Processor, December edition
- Presented a project status update to Olive SIAP members in Melbourne on 11th Dec. Will share this presentation with the PRG committee.

Project activity planned

- 4 TasteBook® workshops in different locations
 - Campbell Town, Tasmania-29th Feb
 - Adelaide, Waite Campus- 6th March
 - Toowoomba, Queensland- possibly in April (Peter is away in March, Soumi to confirm the April date)
 - Mini TasteBook® session- Central Coast, NSW (somewhere between 5th & 19th of April)

- One-hour Masterclass for olive oil and table olive tasting in World Congress on Oils and Fats, Sydney- Feb 2020. Two EVOO, two table olives and two flavoured oils.
- Oral Presentation in World Congress on Oils and Fats, Sydney- Feb 2020
- TasteBook® rounds 6 & 7- Kalamata table olive and Flavoured oil together- end of Jan till mid-March 2020. Peter suggested naming as a 'mega tasting' round. Sample kit will be sent starting from 28th of January as registrations come in.
- Invitation by Olive NZ to train New Zealand judges and growers in April 2020 in conjunction with Pablo Canamasas's course - need the project to be extended by three weeks to include this in the final report.
- Consumer taste tasting of olive oil and table olives (Wagga Wagga, Central Coast, Orange)
- Final project report submission – Soumi requested three-week extension to add reports re Queensland and NZ events. Jemma agreed to the three-week extension with the specific date to be agreed to.

Final workshop dates

It is important that the sensory training workshops do not coincide with the upcoming AOA 2020 workshops to maximise attendance.

Peter confirmed the Linda Costa workshops dates as follows:

19th February Launceston

21st February in Melbourne

23rd of February in Adelaide

25th of February in Hunter Valley

27th of February ACT/Southern Highlands

1st of March in Perth.

Healthy Soils workshops in April are scheduled for the 5th and 19th. Peter suggested to fit in the Central Coast and Queensland workshops between these dates.

Soumi will aim to confirm dates for Queensland and Central Coast by Christmas.

General Feedback / Discussion Points

Tasmanian workshop

Fiona questioned if the sensory training was suitable for chefs and food lovers. Soumi confirmed it would be good for both segments as they will hear the discussion about the oils - defective oils will be included. Participants openly talk about the quality of the oils they are tasting. Chefs should be able to discuss their

experience very well. It would be good for the growers to hear how the chefs may use the oils.

Liz will send Fiona the link to the event so Fiona can distribute the email further.

Liz suggested running a separate workshop for chefs for Tasmania as they may not be interested in the OliveCare component of the workshop. Fiona said if Soumi was to hold a separate one (Monday would be the best day for them to attend) she would target the TAFE.

It was agreed that for the purposes of the workshop on the 29th of February, Fiona will let the chefs know about the combined program and they can decide if they want to attend.

Liz and Soumi to review wording of advertisement/email to ensure that the chefs are not misguided about what the sensory training workshop would involve.

SA workshop

Michelle commented that Andrew Markides was keen to do the table olives component in Adelaide and as she was harvesting almonds during the time of the workshop, she may not be able to attend.

Soumi has invited Briony Liebrich to also come along to Adelaide to share her expertise on the oil tasting side.

Michelle will book the double room at Waite used previously for the sensory training and will check what the minimum system requirements are to use the AV system to ensure Peter and Soumi can make use of the projector equipment.

Marketing suggestions

Peter commented that it would be valuable to mention in the marketing of the event that participants are provided with a certificate of participation. It may attract those industry personnel where based on their organisation's third party certification, they need to provide proof of their olive oil training for auditing purposes.

This need for evidence of training raises the broader issue of the need to standardize the recognition of sensory training across the industry so we have some framework that we can provide certification against both experience in

formal training and more informal training.

Sensory training post current project

Soumi agreed with Peter regarding the need for standardizing the recognition of sensory training and included this as a concept note for a phase two of the Sensory Training project.

Jemma confirmed that as not a lot of olive levy funding is available it is unlikely that HIA can support the project post April and that Soumi needed to consider other funding opportunities.

Jemma confirmed SIAP committee believed the project work to date has been very good, with a lot having been achieved in a small-time frame. They would support an extension of the project if funding was available. SIAP's number one priority is to increase EVOO demand and as health is an important component to increase demand, any new project approvals would be prioritized in this area. Jemma suggested that sensory training could be included as a component in any health-related project that received funding, so there may be an opportunity for funding in this capacity.

Soumi stated that we needed to find a way to continue the momentum started with the sensory training project. Other than increasing pricing of workshops to cover the costs to run them, Soumi requested suggestions from the PRG committee to keep going forward.

Michelle suggested looking at state governments for funding opportunities.

Upcoming project dates

Next PRG meeting to be held in mid-April. Soumi to send out an invitation in mid-March.

Soumi will aim to have a draft final report finished by the end of March. This draft report will be emailed to the PRG committee for feedback before its final submission to HIA.

Australian Olive Industry Sensory Training (OL17003) – 3rd Project

Reference Group meeting- Agenda

Thursday 30th April 2020- 11:00 a.m.-12:00 p.m.

Meeting Chair: Dr Soumi Paul Mukhopadhyay, Project Leader

10:55 Logon to web/video conferencing facility

11:00 Meeting Commences.

Welcome, attendance/ apologies, introductions, governance, meeting papers,

11:10 Purpose of meeting and procedure for meeting, issues not covered in the agenda/papers.

11:15 Review of activities undertaken since completing the second PRG meeting

11:30 Questions and discussions within the committee

11:50 Summing-up of meeting and scheduling the next meeting

12:00 Meeting close

Overview of Roles and Responsibilities for Project Reference Committee members

Role of the Project Reference Committee

The role of the committee is to provide feedback on planned activities and work already undertaken in the project at teleconference held during the life of the 1-year project. The responsibility of each group member is to read the pre-meeting material and actively participate in each teleconference to provide constructive feedback on the project. Time requirement for project reference committee members is about 1-hour preparation time and 1 -1.5 hour teleconference time every three-six months.

About Project OL 17003

NSW Department of Primary Industries (DPI) is the contracted service provider for OL17003. A background and summary of the project is provided to the committee members.

Videoconference Details and Procedure

OL17003 PRG meeting will be held using NSW DPI's teleconferencing facility or Hort Innovation's video conferencing facility (Zoom) which provides voice only or voice and video capability. Meetings will be chaired by the Project Leader. The agenda for each meeting will cover the following:

- review of the previous three months of project activity;
- Suggestions and general feedback

Australian Olive Industry Sensory Training (OL17003) – 3rd Project

Reference Group meeting- Minutes

Thursday 30th April 2020- 11:00 a.m.-12:00 p.m.

Meeting Chair: Dr Soumi Paul Mukhopadhyay, Project Leader

Present: Peter McFarlane, Matt Adkins, Shane Cummins, Kent Hallett, Michelle Wirthensohn, Michelle Freeman, Liz Bouzoudis

Apologies: Jemma O’Hanlon, Claudia Guillaume

Soumi Paul Mukhopadhyay:

Purpose of meeting and procedure for meeting, issues not covered in the agenda/papers.

- Review all activities
 - What went well
 - What didn’t go well
- Discussion of documents:
 - Outputs (refer doc)
 - Any feedback / questions
- HIA were happy to support any peer review articles. Only condition was that final paper has to be shared before final submission.
- **OL17003 Activities to be completed (summary table) document was explained:**
 - The point was made that the PRG committee feedback helped to deliver the project. Feedback needed to be requested but it was received. Everyone’s expertise was different, so all inputs were valuable. Meeting the growers/participants in workshops was especially valuable for understanding their needs.
 - Face to Face workshops most important part of project – completed 8.
 - 3 rounds of virtual rounds also completed. The last of these will be completed by webinar. Two participants are in NZ.

- Video links were sent to participants to help people understand how to taste the oil.
- Sensory panel training for new entrants (table on page 2) – happening in Wagga Wagga from Feb 20. Some disruption due to COVID-19. Australian Olive Oil Sensory panel training with Helen Taylor.
 - 3 of the 6 weeks was completed as planned. The full 6 weeks training will be completed by next week.
- A lot of interest in table olives. Presentation in Wagga Wagga – foundation of materials that were put together for workbook of TasteBook sessions. Did different training in the 8 different workshops. Every workshop aimed for 5-6 different table olive classes to experience.
- The biggest focus of the project was on industry stakeholders but focus also needed to be on consumers. How will growers communicate to consumer groups? Had a couple of good opportunities in 2019 – one was with Young Judges Training Program in SA (went to 5 different high schools in SA – 2 days of intensive program of sensory training).
- Once submit the final report the project will finish. Will then undertake a business model evaluation. In the future if AOA wants to run with DPI, how finances will work? This will be submitted with final report.

Questions raised:

- Have we seen major changes as a result of this program regarding the quality of table olives and the quality of evaluating the table olives?
- Are producers more involved and/or have more confidence to continue?

Comment was made that there have been more initiatives from AOA with Table Olive Workshops plus table olives conference topics. If there has been a shift, the Sensory Training project can't take all the credit.

There has been a measurable increase in the number of people that have come forward to participate. At the last AOA conference, the level of participation in table olives was as high as in EVOO. The Sensory Training Project activities helped

to sustain this interest. This has happened at a time of severe drought and other things that have reduced the crop.

Soumi commented that the main feedback in Sensory workshops was for more time to be spent on table olives at the workshops. Experienced participants started sharing their knowledge. 60% of participant feedback showed that discussion was valued. Some people attended more than one workshop. Products from different states were made available for tasting so that participants had an opportunity to taste products that would not ordinarily taste.

- **OL17003 Deliverables (summary table) document was explained:**
 - Deliverables are the outputs of the project
 - Refer to the Deliverables document for full details
 - Milestone 102 – didn't anticipate drought, bushfires and COVID-19
 - 31/3/20 – original date of project completion date. HIA extended until 8th May. New panel training should be completed by this time and report submitted.

Soumi thanked the committee with offline calls. Appreciated all the time provided in the project. All involved in the project will be acknowledged in any published material.

Comments:

In terms of outputs, consider flagging the following activity – define exactly what it is what judges need to know in order to be a good judge. Currently the classification of judges is set by an organisation's Chief Judge and Steward – they will determine who will join a panel based on peer review rather than skills. In the future, we need to be able to say to prospective judge that these are the skills and training you need to have and to participate in – e.g. be able to recognize faults, positive attributes etc. There is currently no formal training that says if you do these things you will be in the running to be a senior judge.

The AIOA is currently working through this detail and comparing with other shows from around the world. This year's AIOA will send oils internationally, will be cross referenced and double blinded. The Australian competition system is one of the few systems that takes account of the knowledge of the room and invites associate judges so they can learn from others. Also trying to reach out into the wider

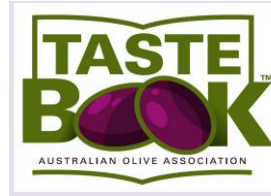
industry and consumer world.

Soumi confirmed there are lots of learnings from this particular project. More work needs to be done, especially in table olives judging.

No further formal committee meetings to be held for the project but Soumi will be in touch once HIA approves final report so that we all have a copy. Need to ensure all knowledge is disseminated among all industry.



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Australian Olive Industry Sensory Training Program

Dr Soumi Paul Mukhopadhyay
Sensory & Consumer Researcher- Horticulture

A vibrant, stylized map of India composed of various cultural and religious symbols. The map includes the Taj Mahal, a bull (Nandi), an elephant, a peacock, a snake, a lotus flower, a cup of tea, a key, a wheel, a temple gopuram, a cow, a palm tree, and several Om symbols. The word 'INDIA' is written in large, colorful letters to the right of the map.



My Culture

Food is an intricate part of my culture and upbringing-
hence “Sensory perception” is always important for me.....



Education (2000-2006)



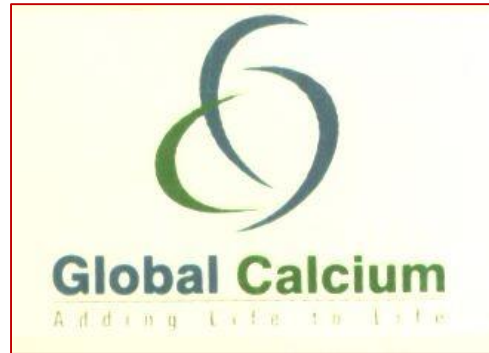
B.Sc. Agriculture
(2000-2004)

M.Sc. Food Technology
(2004-2006)

FMCG Industry Career (2006-2012)



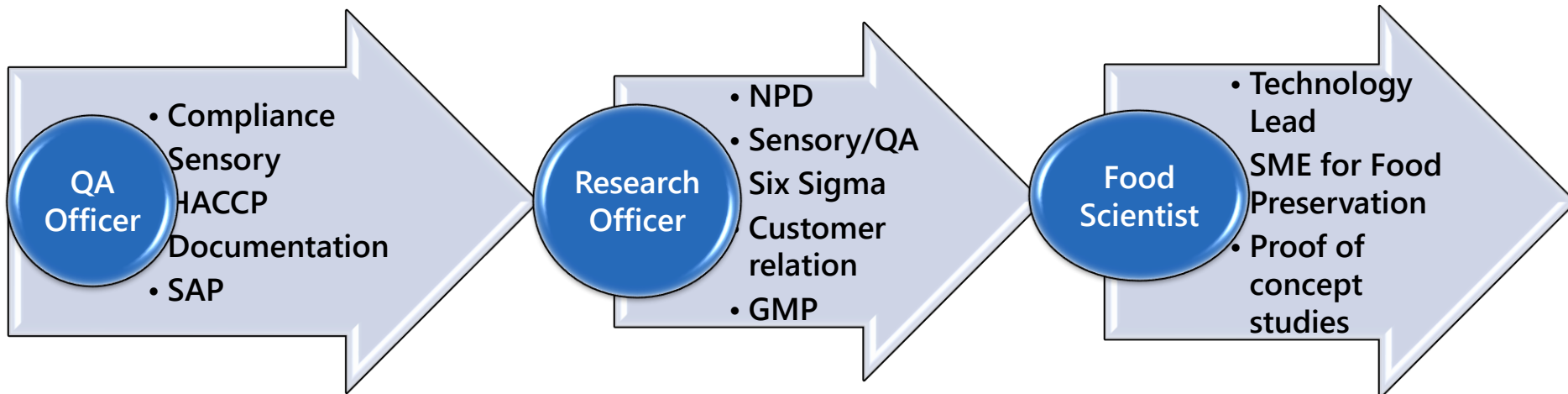
India



India



India & Italy



Varied industry experience...

Research Career (2012-2015)



PhD Food Science (specialisation in Sensory and Consumer Science)

GROUND COVER | SEPTEMBER - OCTOBER 2015

YOUNG SCIENTISTS IN GRAIN

35

Kyabra and PBA HatTrick top consumer study

By Nicole Baxter

■ Research aimed at giving Australian desi chickpeas an advantage in the global food market shows how different varieties are better suited to different cooking methods.

GRDC-supported PhD student Sourmi Paul Mukhopadhyay, based at Charles Sturt University (CSU) near Wagga Wagga, New South Wales, says the sample of Kyabra[®] she examined was particularly well suited for processing into whole puffed chickpeas (a common snack food in southern India) and cooked chickpea dhal.

However, the PBA HatTrick[®] sample was preferred for the production of another major Indian snack food, fried split chickpeas.

For the past three years, Mrs Paul Mukhopadhyay, a food scientist from India, has been investigating the sensory attributes that drive consumers' preferences regarding whole puffed chickpeas, fried split chickpeas and cooked chickpea dhal.

Working under the supervision of CSU's Associate Professor Paul Prentzel, Professor Chris Blanchard, Professor Anthony Saliba and Dr Jennifer Wood, from the NSW Department of Primary Industries, Mrs Paul Mukhopadhyay has identified what Indian and Australian consumers like and dislike about a selection of Australian chickpeas.

To do this, Mrs Paul Mukhopadhyay returned to India in 2012 to learn how to make puffed whole chickpeas, fried split chickpeas and cooked chickpea dhal according to traditional Indian methods.

In the first study, commissioned by the Central Food Technological Research Institute in India, she discovered that the Indian chickpea samples examined had a puffing yield of 60 per cent, whereas the four Australian samples had a reduced puffing ability.

However, after selecting another 12 different chickpeas from a single trial and testing them in Australia herself, Mrs Paul Mukhopadhyay was delighted to find the puffing yield of Kyabra[®] was about 50 per cent, which is considered to be commercially acceptable for puffing.

"We now know Kyabra[®] has the ability to puff well and is well liked by consumers, scoring higher than an imported Indian product produced by Bam's Foods," she says.

"If this trend is supported across trials it may be beneficial to segregate Kyabra[®] in the future and target it to the southern part of India where the market demands chickpeas with high puffing yields."

For frying and cooked dhal, the Australian chickpeas tested performed well but PBA HatTrick[®] stood out in the consumer preference study.

As part of her research, Mrs Paul Mukhopadhyay conducted an online survey of 813 Indian consumers and 775 Australian consumers and found the level of awareness about chickpeas and their associated different food uses was much higher in India than in Australia.

"There is ample opportunity to popularise chickpeas in the Australian diet



Charles Sturt University PhD student Sourmi Paul Mukhopadhyay with fried, split, puffed and raw chickpeas used as part of her investigations into the performance and market acceptance of Australian chickpeas in India and Australia.

by highlighting them as gluten free, high in protein and low in fat," she says.

When chickpea prices are high, Mrs Paul Mukhopadhyay says field peas are often substituted for chickpeas, because uncooked field pea dhal looks similar to raw chickpea dhal. However, the results of her sensory study showed consumers could detect significant differences between the split chickpeas and some field peas in their cooked forms.

To assist pulse breeders in improving

the quality and market acceptance of Australian chickpeas, Mrs Paul Mukhopadhyay has developed a preference map to show where these Australian chickpea and field pea samples stand in terms of meeting the preferences of Indian and Australian consumers. ☐

GRDC Research Code DAN00139

More information: Sourmi Paul Mukhopadhyay, 0405 230 274, smukhopadhyay@csu.edu.au.



Desi chickpeas



Split Desi chickpeas



Kabuli chickpeas

Back to Food Industry (2016 onwards....)



Sensory Technologist, Australia

Main role:

***Sensory Program development
and execution- Grocery business for 4
individual categories***



Back to Research (2017 onwards....)



Department of
Primary Industries

**Sensory and Consumer Researcher
NSW Horticulture**



Having a consumer oriented research and product development is important in today's market.....



Changing shift in today's consumer trend.....

The latest census found that only slightly more than half of Australia's residents today have two Australian-born parents and **more than one in four Australian residents were born overseas.**

This shift in the population make-up also means a shift in shopping habits, preference, behaviours and expectations, as well as a influence and purchasing power towards ethnic-Australian consumers.



Today's consumer is.....

Provenance

**Follow food
trends**

**More
educated**

**Clear about
food sensory
attributes**

**Aware about
safe food**

**Technologically
savvy**

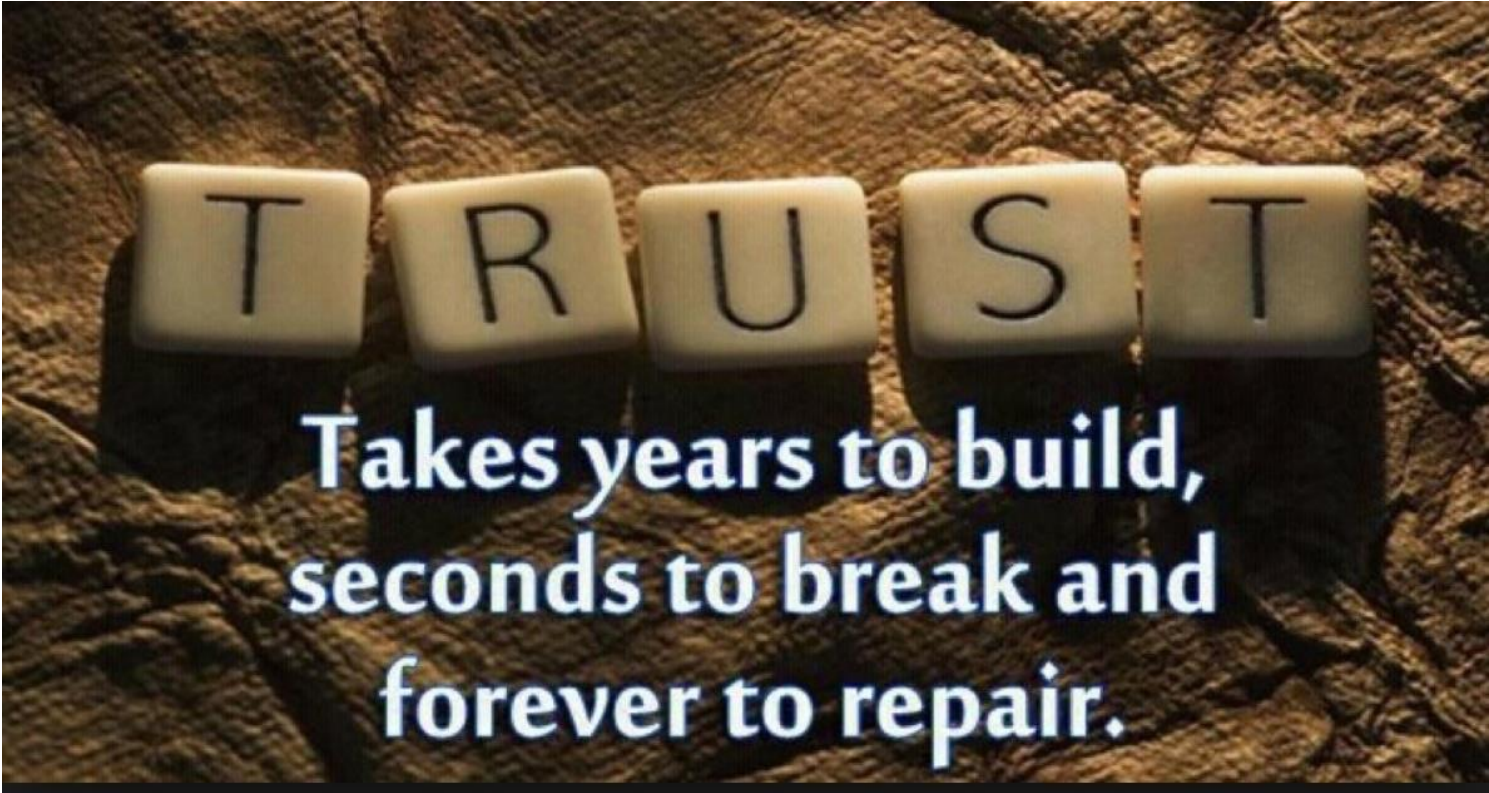
**Health and
brand
conscious**

**Environmental
conscious**



“THE CORE
OF OLIVE OIL
TASTING IS
ASSESSING
QUALITY.”



The word "TRUST" is spelled out using five white, rectangular tiles with black lettering. The tiles are placed on a dark, rough, and textured surface that resembles weathered wood or stone. The lighting is dramatic, casting shadows from the tiles onto the surface below them.

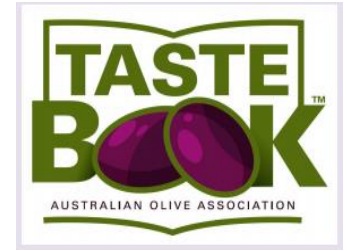
TRUST

**Takes years to build,
seconds to break and
forever to repair.**

Context....

- ❑ The Australian olive industry has a domestic and international reputation for producing superior quality olive products.
- ❑ Rigorous sensory evaluation and consistent knowledge of the sensory panel and judges have to be continued with global standards and accreditation- to maintain this consistent and superior quality of Australian olive products in domestic and international markets.
- ❑ Quality sensory testing depends on well trained, highly skilled panellists and competition judges and training resources required not only to maintain existing panellist quality but also aims to develop new panellists/judges.

Why we are doing this.....



- ❑ Support and maintain the ongoing knowledge of accredited sensory panellists and nationally accredited competition judges;
- ❑ Encourage new entrants and educate beginners on how to assess organoleptically the quality, flavour and presentation of Australian extra virgin olive oil (EVOO) and table olives (TO) to match evolving and increasing market demands.

Project stages.....



- Understand the baseline and training requirements
- Ensure expectations are clearly understood
- Identify the knowledge gap

Understanding requirements

Series of integrated Training

- TasteBook™ quarterly training
- Workshops in designated regions
- Masterclass in conjunction with AOA conference

- Improved knowledge and skill set for all participants about various sensory attributes of EVOO and TO products
- Encouragement and education of new entrants

Final survey, report & recommendations



Understanding olive oil sensory descriptors- Diversity in the sensory attributes

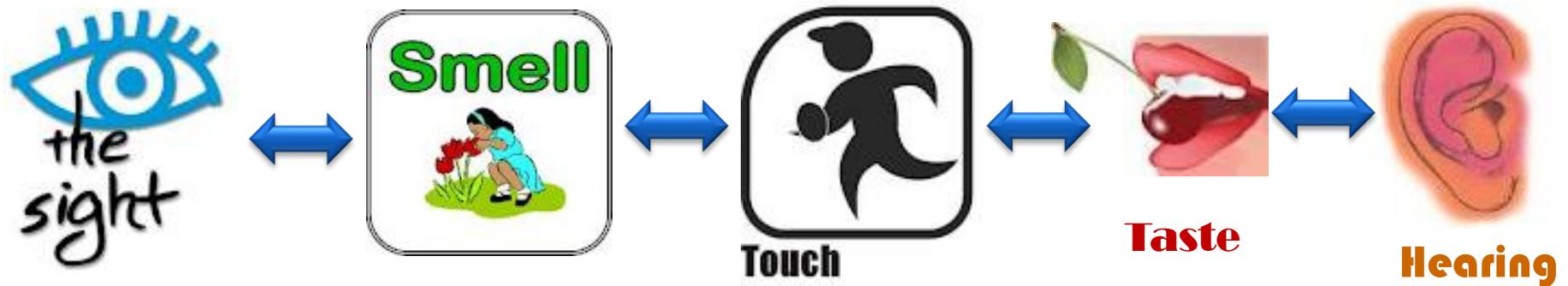


**Consistent National
framework of training**

HOW TO TASTE A TRULY
EXTRA VIRGIN



What is sensory evaluation?



- ❖ Appearance
- ❖ Shape
- ❖ Colour
- ❖ Consistency

- ❖ Odour
- ❖ Volatile molecules

- ❖ Tactile sensation

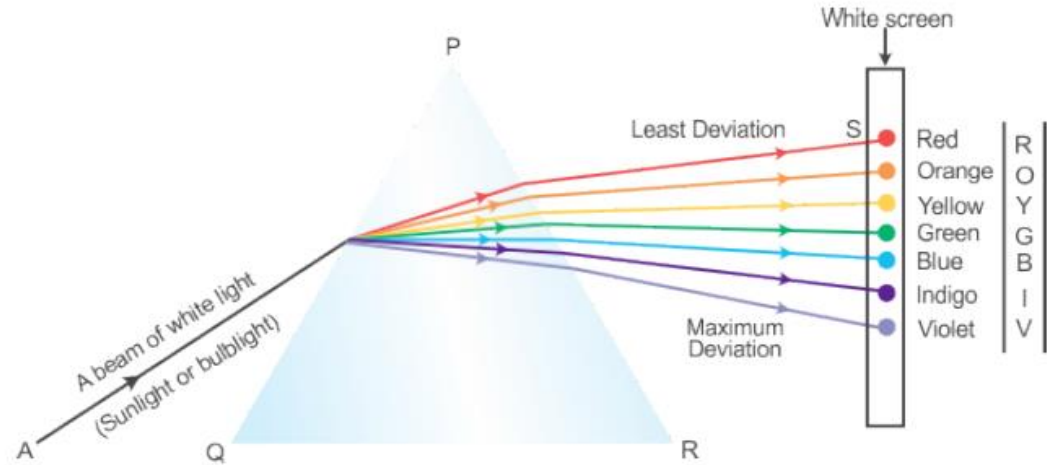
- ❖ Sweet
- ❖ Sour
- ❖ Bitter
- ❖ Salty
- ❖ Savoury

- ❖ Crunching
- ❖ Crackling
- ❖ Popping
- ❖ Bubbling

Colour and light

White light comes from sun, electric lights firelight and candles

Contains different light travelling at different wavelengths

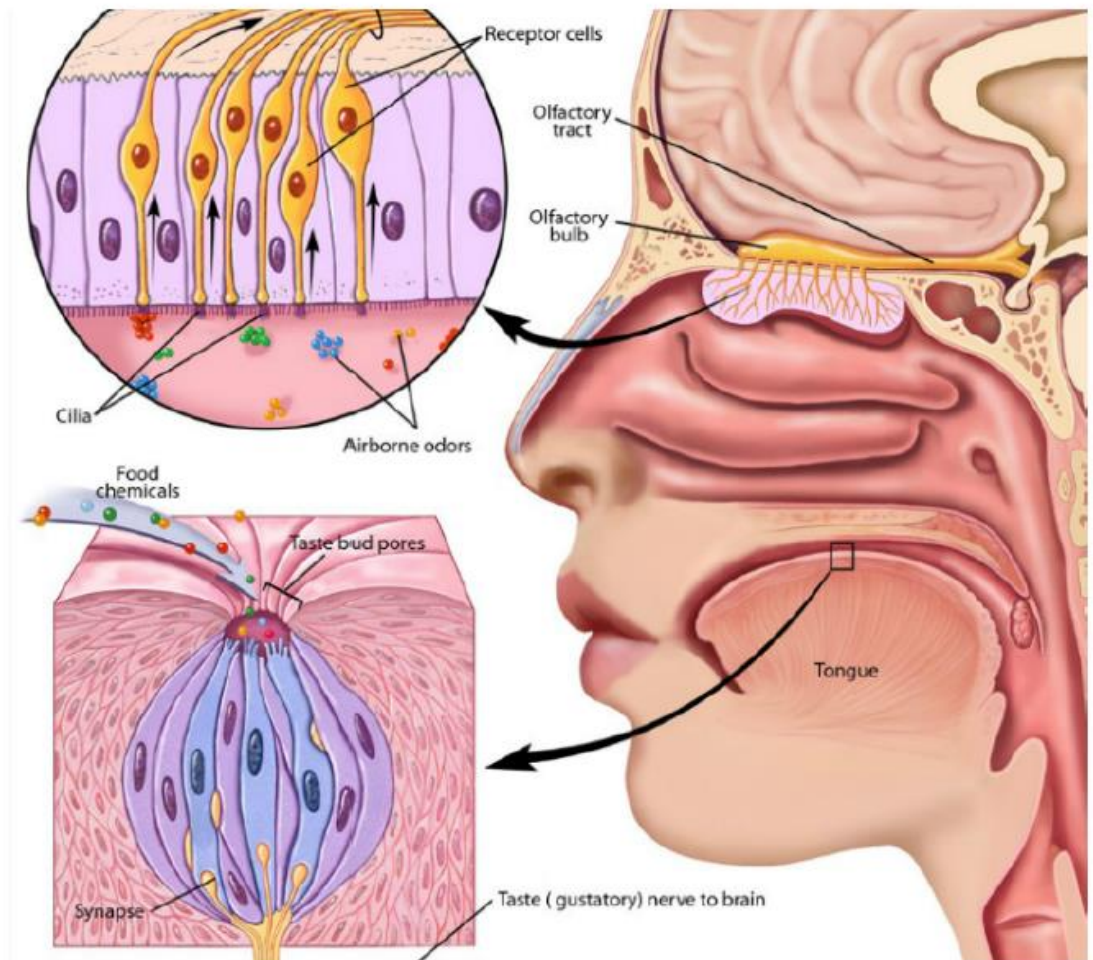


Light source affects colour perception

- Image shown left is from fluorescent light sources
- Left top Daylight deluxe, cool white, daylight, Green, Red and Yellow (bottom right)



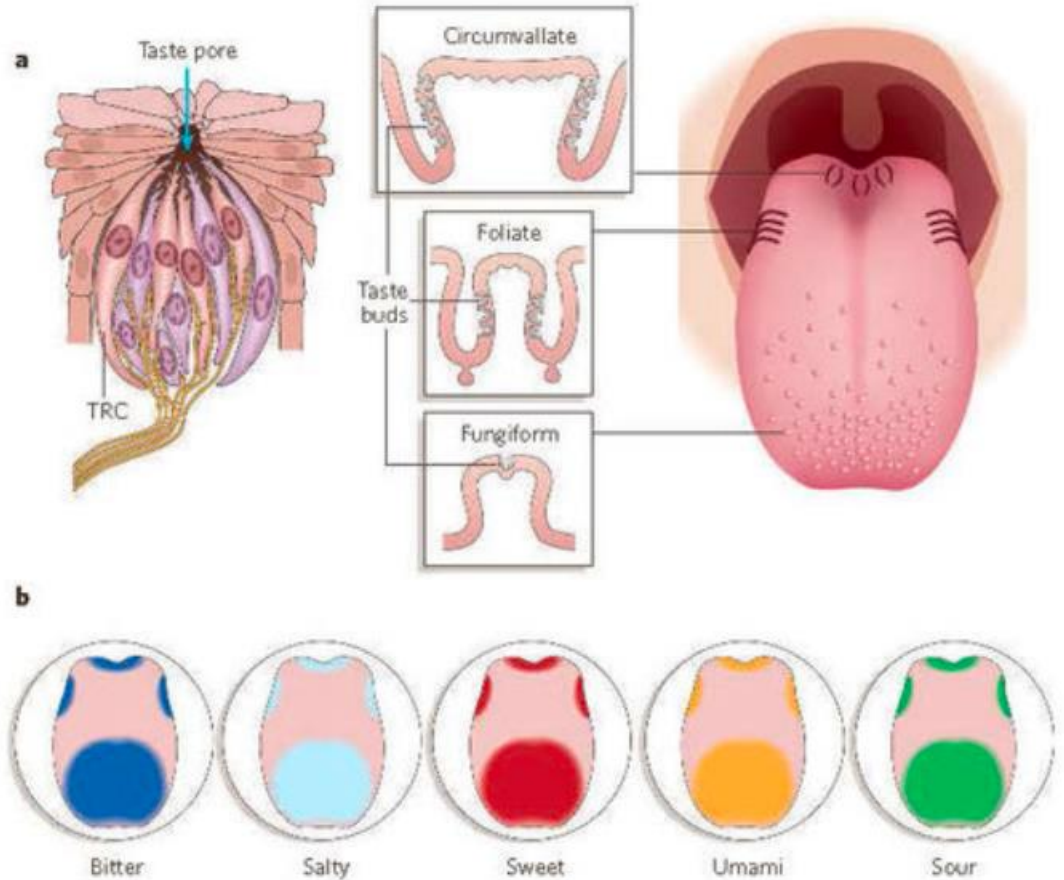
Interaction of taste and smell to get flavour



The papillae and taste buds

a. taste bud

b. modern taste map

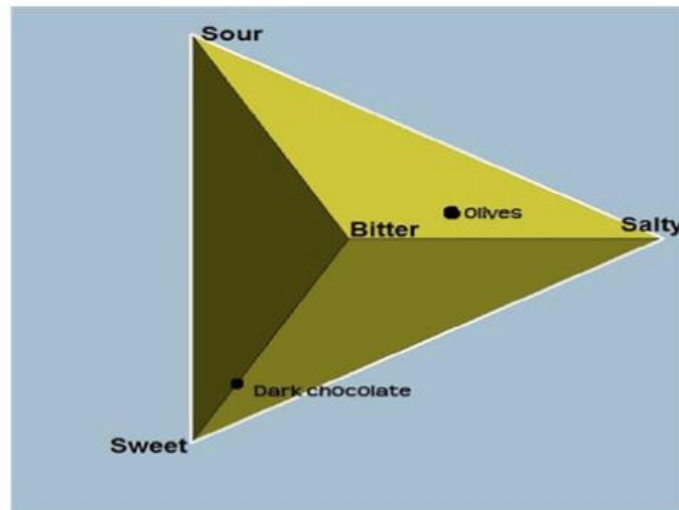


Flavour includes

- taste
- odour (smell)
- tactile sensations (sensations that can be felt)

Taste interactions

- Taste interaction can be represented in a tetrahedron



Receptors

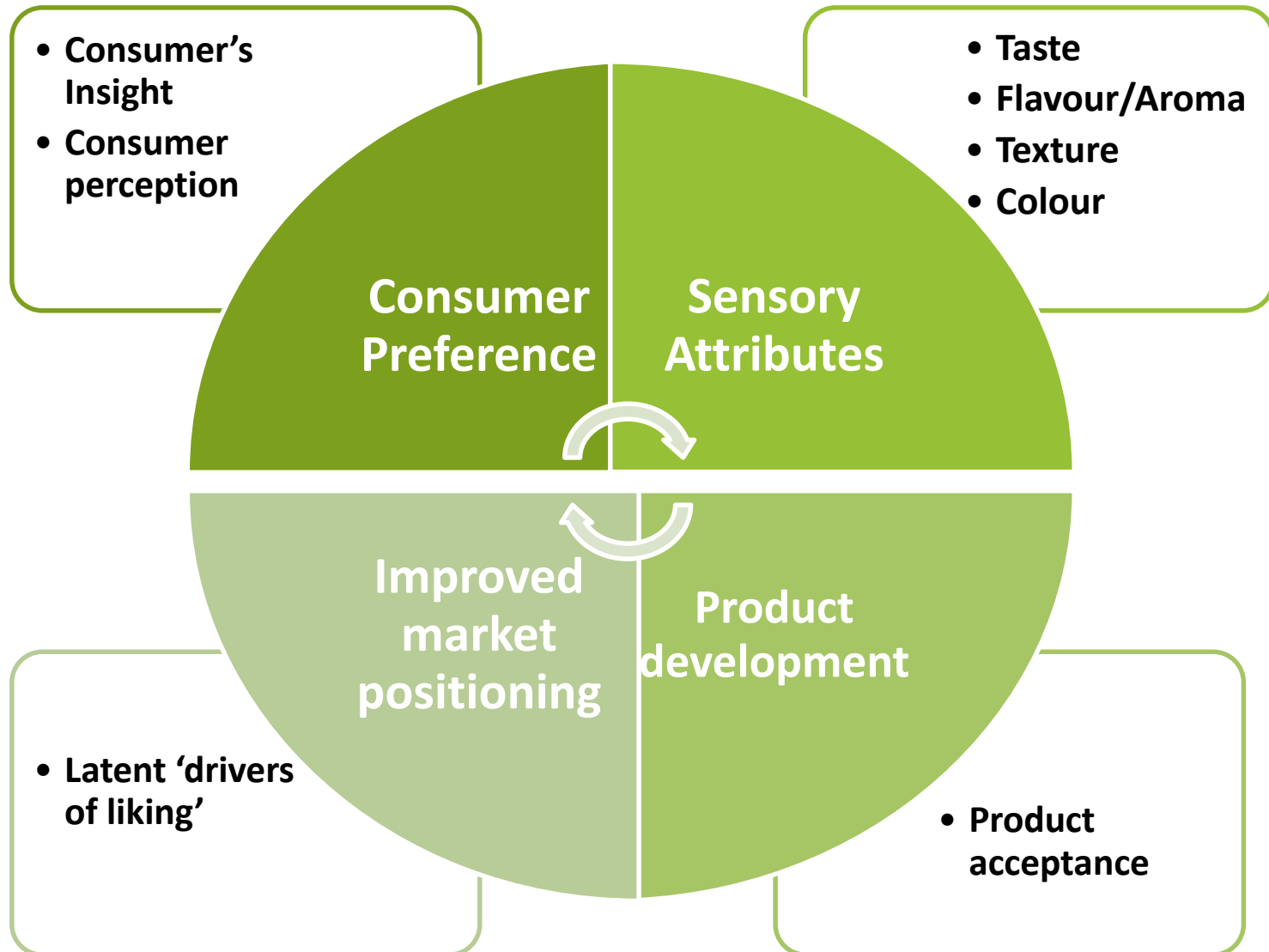
- **Tactile:**
 - respond to the way in which sample is deformed when handled
- **Kinesthetic:**
 - respond to sensations of movement and position of jaw



Mouthfeel

- refers to the sensations in the mouth during eating
- depends on the physical properties of density, viscosity and surface tension and on the chemical properties of the food.
- **After-feel** - lingering sensation after swallowing
- **After-taste** – taste remaining in mouth after swallowing.

Sensory attributes- Key drivers for consumer preferences



Producer-Priority Selection

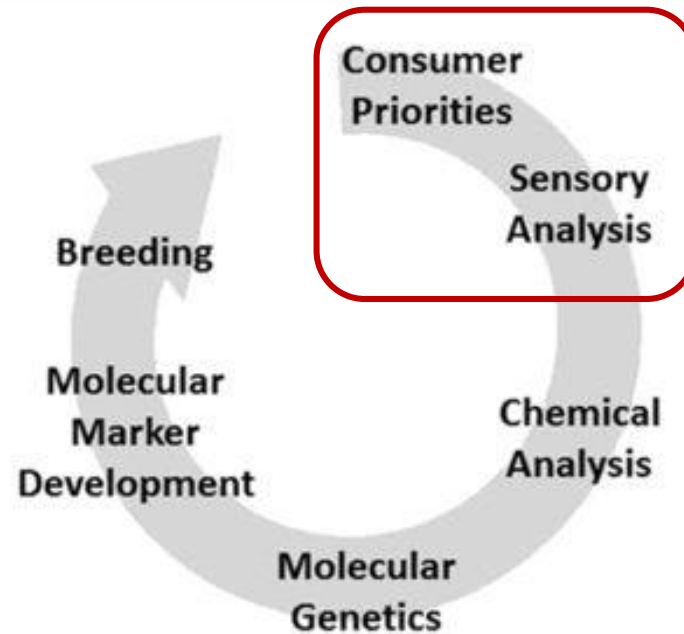
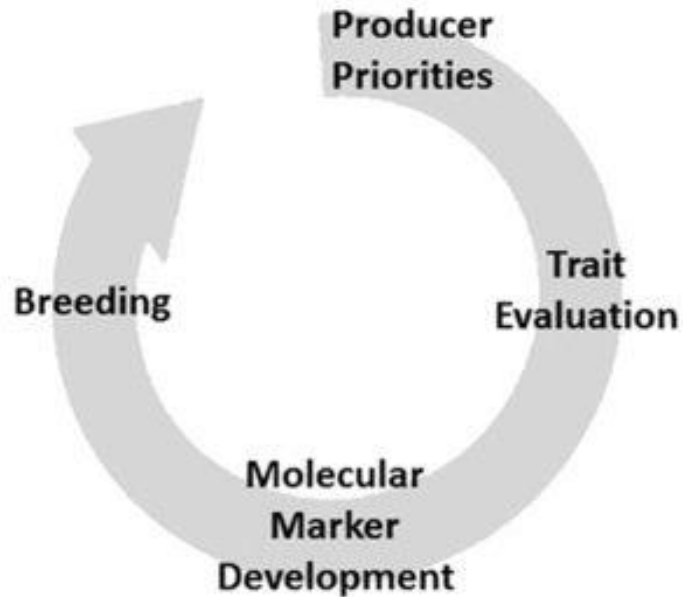
Consumer-Assisted Selection

BREEDING
PRIORITIES

Disease resistance
Shelf life
Yield
Appearance
Uniformity

Flavor
Aroma
Novelty
Nutrition
Sustainability

BREEDING
PROCESS



Sensory methods

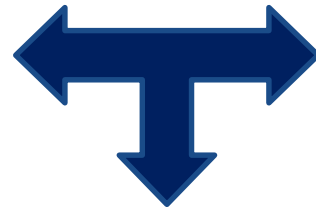
Effective Testing

- ❖ *Objective* facts
- ❖ Trained Panel: 8-12

Affective Testing

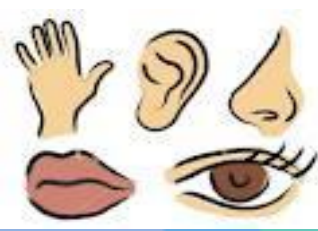
- ❖ *Subjective* preferences
- ❖ Untrained panel: >50

Descriptive Analysis



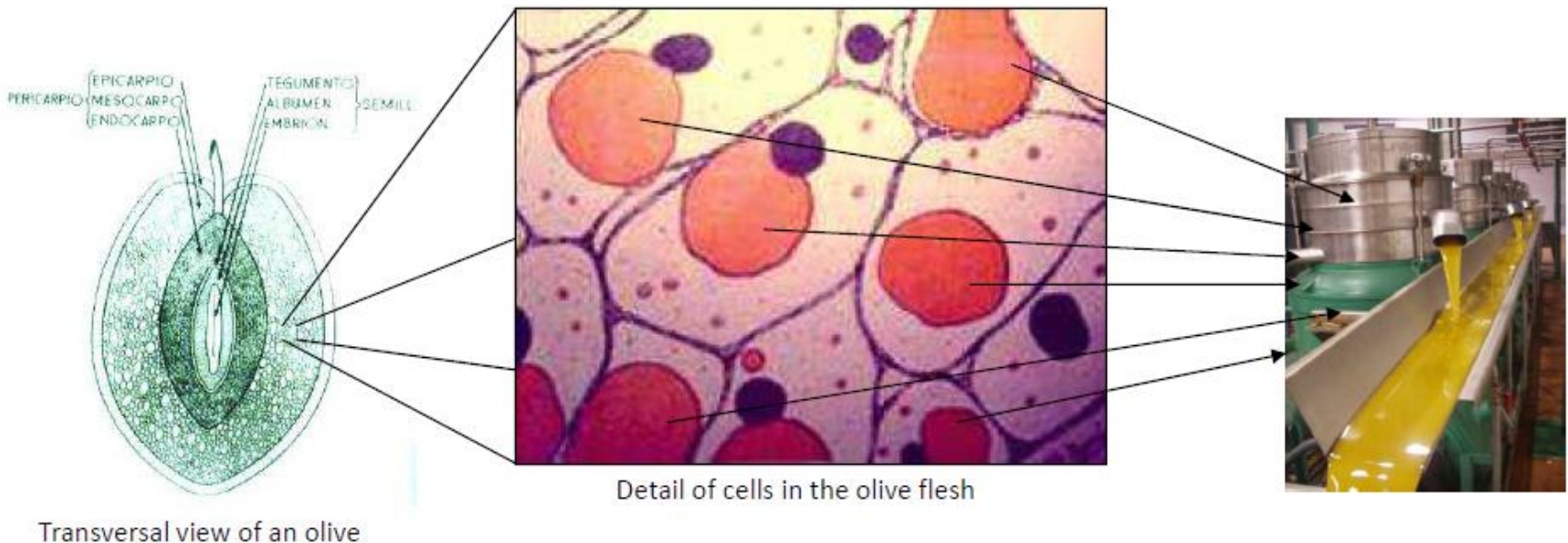
Consumer Evaluation

Flavour Preference Map



What is olive oil?

Olive oil is the oil obtained solely from the fruit of the olive tree (*Olea europaea* L.), to the exclusion of oils obtained using solvents or re-esterification processes and of any mixture with oils of other kinds.



How is olive oil made?



Collecting the fruits



Fruits in the washing equipment



Double grid hammer crusher



Olive paste in first malaxer

How is olive oil made?

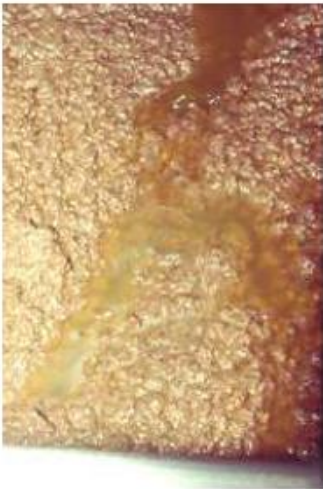
Decanter separating olive oil from paste



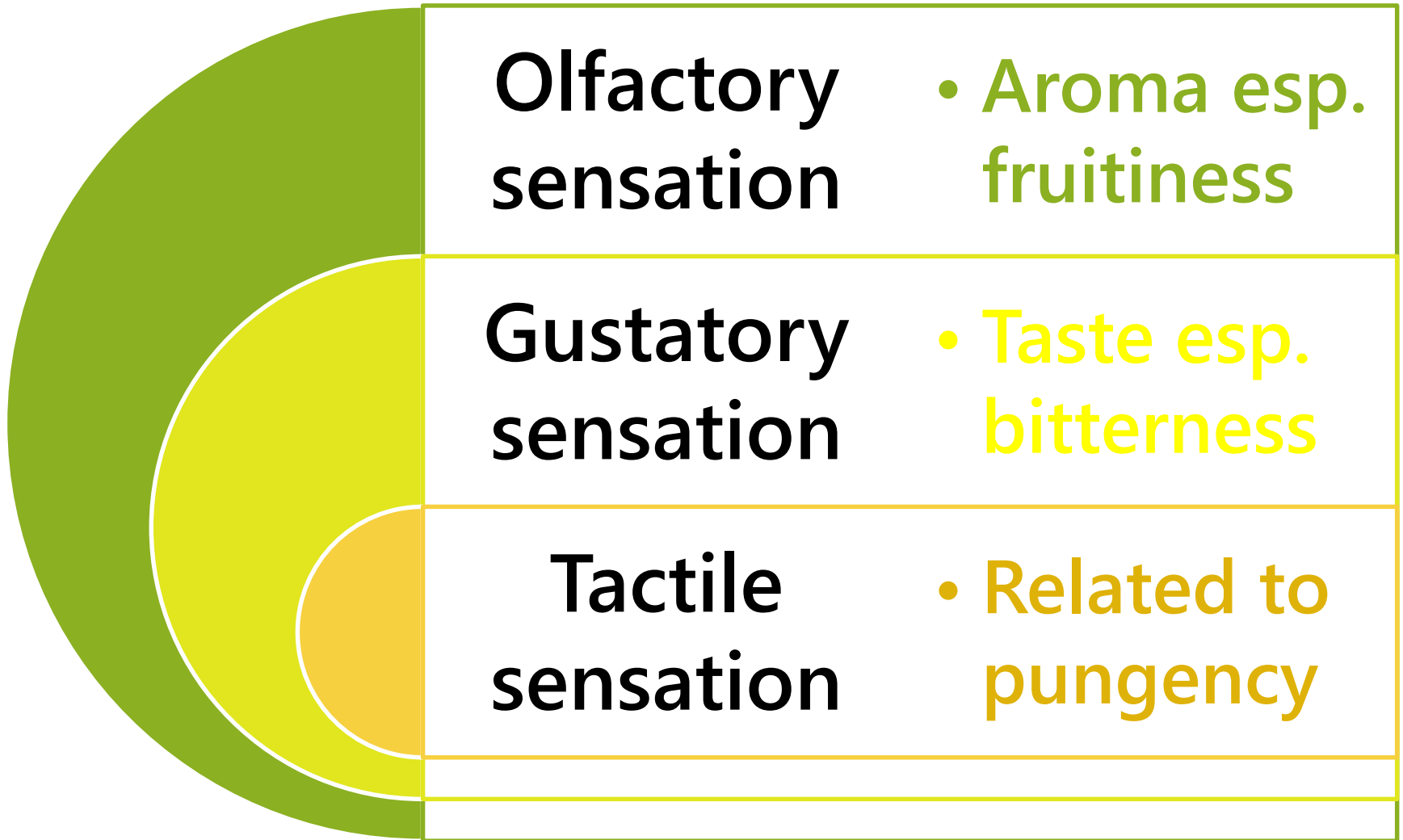
Olive oil storage

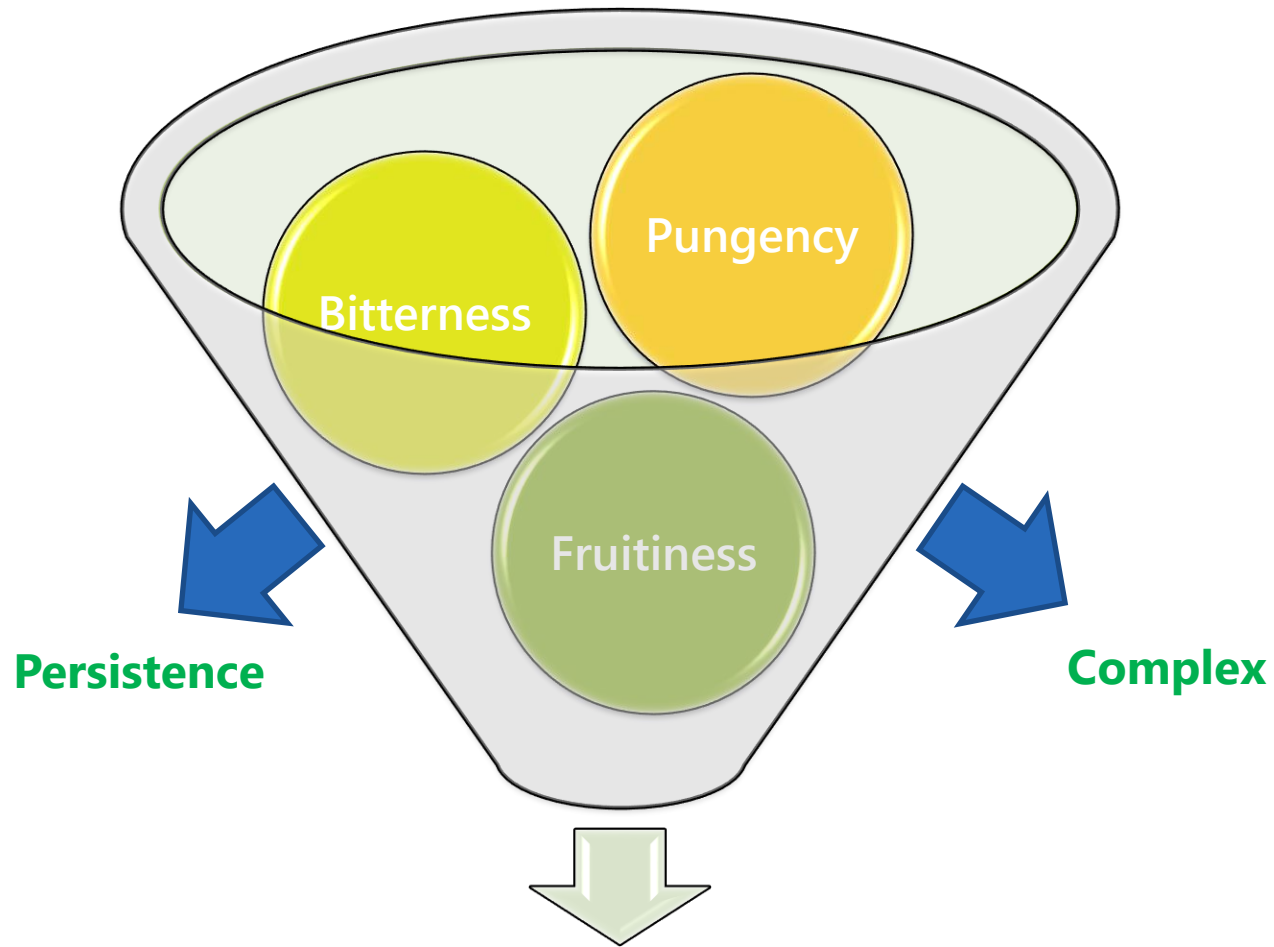


Vertical separators clarifying the oil









Balance/Harmonius

NEGATIVE ATTRIBUTES

A powerful sense of smell enables us to detect tired or aging oil, or a defect. The defect can be due to the time of harvest, long delays between harvesting & processing of fruit, weather conditions, processing & storage of oil (eg. rancidity).

The oil has an unpleasant taste of stale nuts or ripe fruit. Or, little fruit on the palate. A thick, pasty feel on the tongue.

Overly bitter
Overly
peppery/pungent
Short finish
Unbalanced
Unpleasant aftertaste

POSITIVE ATTRIBUTES

A powerful sense of smell enables us to recognise attributes by holding the glass for 30 seconds to our nose. Aroma can be intense – dark greens, sorrel, grassy, herbaceous, green banana or tomato, through to softer fruits such as apple, pear, fresh nuts and tropical fruit.

Fresh oils with an olive fruitiness are a strong indication of high quality oils. Pleasant enticing flavours range from green vegetable or tomato through to banana, citrus or salad leaves. As you begin to swallow, more sensations appear, such as bitterness & pungency, both complementing each other.

Complex – Multi dimensional, balanced or harmonious. Persistence – long lasting with a pleasant aftertaste.

AROMA

FLAVOUR

COMPLEXITY PERSISTENCE

DECISION

HOW TO TASTE OLIVE OIL

Pour a little olive oil into a glass.



Warm the glass, and hence the oil, in your hands to release the volatile aromas.



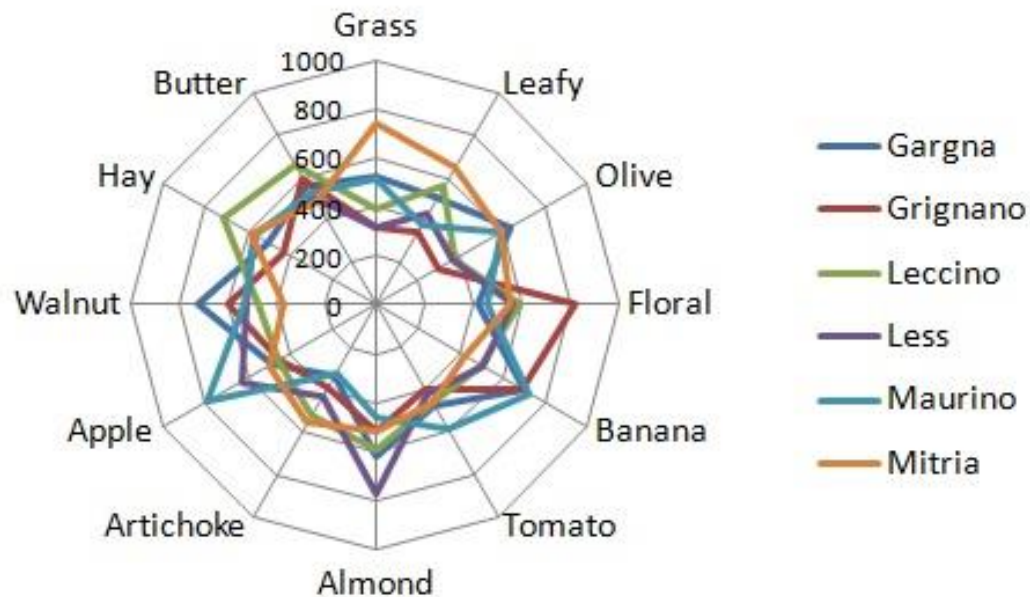
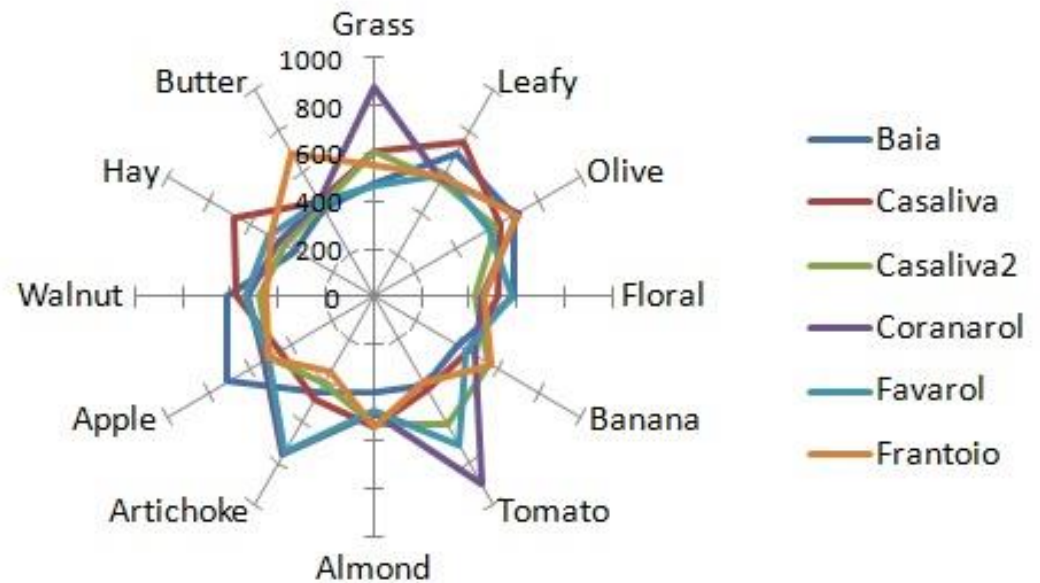
Bring the glass to your nose and inhale two or three times, taking in the fragrance.



Take a small sip of the oil, allow to slide on to your tongue (but do not swallow). Now with your mouth slightly open, suck in some air.



Multidimensional sensory flavour profile

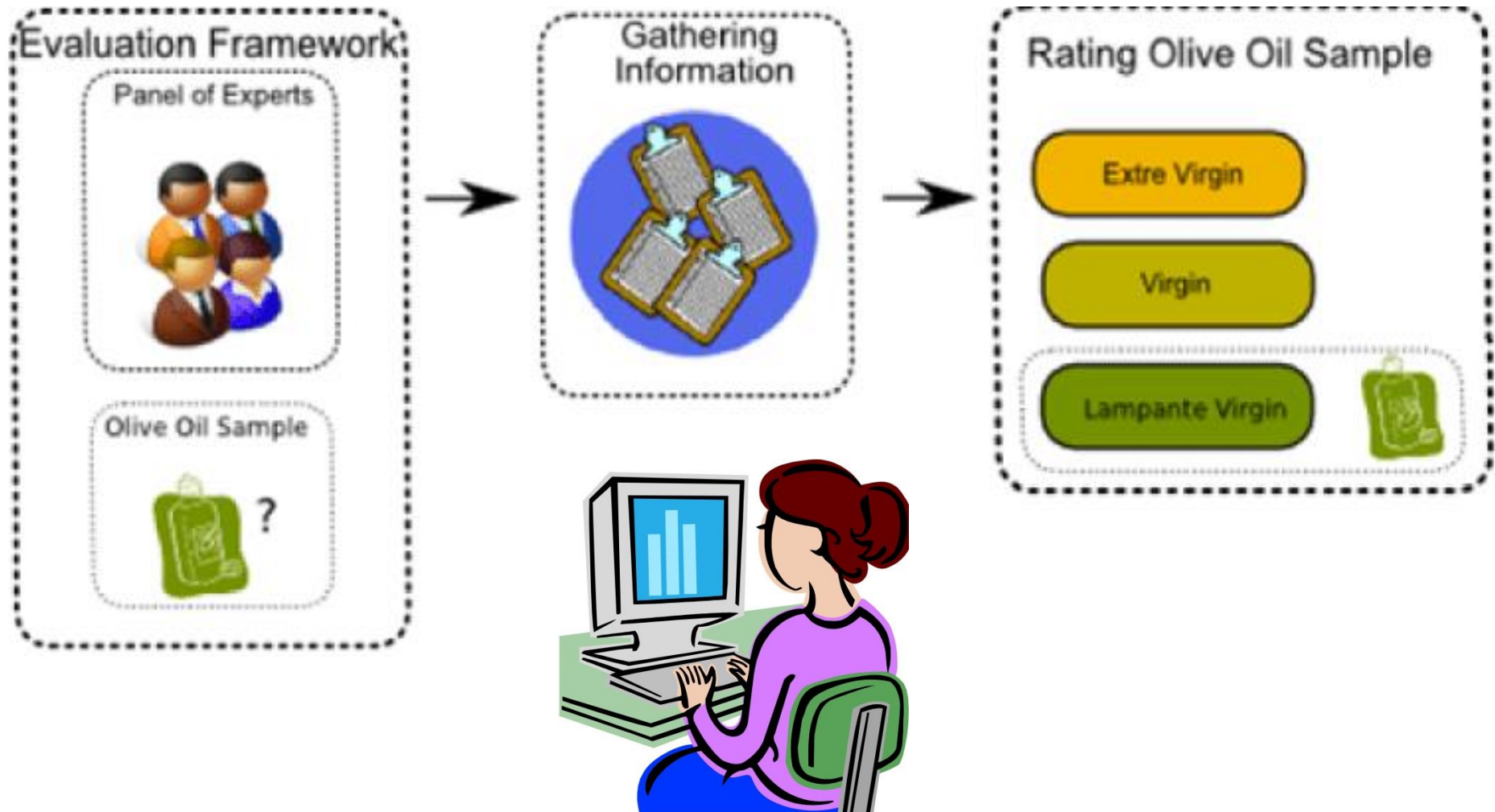


Complex

Varieties Descriptors

Frantoio	Leccino	Barnea	Picual	Coratina	Koroneiki	Arbequina
Buttery	Caramel	Banana Fruit	Tomato fruit	Green grass	Green grass	Red apples
Floral	Tofi	Banana skin	Tomato leaves	Woody	Cut grass	Confectionary
Dried Herbs	Vanilla custard	Buttery	Fig tree / leaves	Cut grass	Green tomatoes	Tropical fruits
Green almonds	Condense milk	Shallots	Overripe apples	Leafy	Green banana	Creamy
Walnuts	Vanilla biscuits	Grassy	Cat pee	Nutty	Timber	Berries
	Cream	Woody		Green almonds	Pine	Ripe fruits
		Sea weeds		Smoky	Smoky	Condense milk

Streamlining the evaluation process...





Harnessing Provenance- need to support and promote Australian olive products



What we are going to achieve.....

- ❑ Maintain and improve knowledge (recency of practice) of the accredited sensory panel and competition judges nationally;
- ❑ New entrants to the Australian olive industry are equipped with the sensory assessment skills necessary to ensure the delivery of a quality product;
- ❑ Identified stakeholders better understand and are confident in undertaking sensory assessments of EVOO and table olives.





The Competitions



The competition has three main sections, **Extra Virgin Olive Oil**, **Flavoured Olive Oil** and **Table Olives**.

Oils are judged out of a maximum of 100 points. The extra virgin and flavoured oil medal scoring range is: Gold Award (86-100 points), Silver Award (76–85 points) and Bronze Award (65–75 points). Table olive entries are judged out of a maximum of 30 points. The table olive medal scoring range is: Gold Award (25-30 points), Silver Award (22-24 points) and Bronze Award (19-21 points).

Medals are awarded based on the final agreed score. More than one medal of each type (except major trophies) can be awarded within each class.

To win a major award for Extra Virgin and Flavoured Oils, the entry must have scored 80 or more points. A major Table Olive award entry must have scored a minimum of 22 points. All Gold medal winning entries are retasted to identify 'Best of Class' and 'Best in Show' awards.





EVOO 100 Point Scoring Sheet

Name of judge:

Panel No:

Class:

Sample No.	Individual Points			Total	Other Judges		Agreed Points	Award	Comments
	Aroma	Flavour	Harmony Complex						
	/35	/45	/20						
TB-5A					Please do not worry about other judges, just try to assess all 4 samples yourself and put a score				
TB-5A									
TB-5A									
TB-5A									

Defective: <50, No Medal: 50-64, Bronze: 65-75, Silver: 76-85, Gold 86-100 ©Australian Olive Association Ltd.



WHAT MAKES A GOLD MEDAL EXTRA VIRGIN OLIVE OIL? When first smelling a gold medal extra virgin olive oil it is fresh and clean (fault free). It shows excellent fruit intensity with a variety of different aromas and scents. In the mouth the aromas transfer to the palate and are as intense or more intense than on the nose. It tastes fresh, vibrant and clean. The oil feels light and creamy (not oily) on the palate. Depending on oil style, bitterness, pepper and/or astringency are present in varying degrees. A mild oil has little or no levels of pepper and pungency whilst a robust oil has significantly higher levels. Either way, they are in balance and do not over power the fruit or mouthfeel. A gold medal oil has a flavourful lingering finish. To finish, the oil is fresh, balanced, complex and harmonious. You will want to drink it.





BOUNDARY BEND LTD. COBRAM ESTATE ULTRA PREMIUM HOJIBLANCA

94/100, Class 5A Spanish Mild

Fresh mint, green tea, rocket, artichoke and floral notes on the nose following through strongly onto the palate. The oil tastes even better than the fresh aroma. Light mouthfeel with a mild and balanced bitterness and pungency. Long flavourful length with lingering texture. Complex and multidimensional. A harmonious oil.



BEST IN CLASS



W₂O OLIVES EXTRA VIRGIN OLIVE OIL

96/100, Class 3 Robust

Fresh and clean aromas of wet grass, lemon verbena, eucalyptus pea shoots and salad herb. Good transfer to palate with more rocket and sorrel. Complex, well balanced bitterness, astringency and pepper and a long lingering length. A premium oil. Three dimensional with lots going on.



BEST EVOO IN SHOW



**BEST EVOO IN SOUTHERN
HEMISPHERE**



BEST EVOO IN AUSTRALIA



BEST EVOO FROM NSW/ACT



BEST IN CLASS

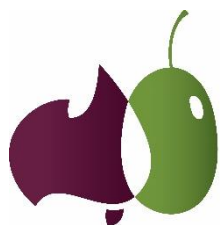


WHAT MAKES A GOLD MEDAL FLAVOURED OIL? On first impression a gold medal flavoured oil is fresh and clean (fault free). On smelling the oil, it shows excellent intensity of the flavouring element/s (lemon, rosemary, garlic etc.) and in some cases fresh olive character. A gold medal oil has varying attractive aromas highlighting the flavouring element/s and where possible fresh olive oil. The aromas and flavours are authentic and pure representations of the flavouring (not artificial). In the mouth the aromas transfer to the palate and are as intense or more intense than on the nose. It tastes fresh, vibrant and clean. The oil feels light and creamy (not oily) on the palate. The oil's level of bitterness, pepper and/or astringency is balanced with the flavouring element/s. A gold medal oil has a flavourful lingering finish. To finish, a gold medal flavoured oil showcases the flavouring element/s purely as well as be fresh, balanced, complex and harmonious. You will want to get in the kitchen and start cooking.

peppercorn
lemon
bronze
flavour
aromatic
fragrant
garlic
floral
truffle
length
gold
complex
lime
cumin
green
chilli
ginger
vibrant
flavoured-oils
agrumato
basil
intense
creamy
cinnamon
zesty
lemongrass
silver
distinct
delicious
lovely
lingering
herbal
mouthfeel
garam-masala
spice
grapefruit
rosemary



Thank you for your participation!



AUSTRALIAN OLIVE
ASSOCIATION_{LTD}

This workshop program has been funded by Hort Innovation, using the Hort Innovation olive research and development levy, co-investment from the NSW Department of Primary Industries, the Australian Olive Association and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

**Hort
Innovation**
Strategic levy investment

**OLIVE
FUND**



A Descriptive Language for Table Olive Flavours

Dr Soumi Paul Mukhopadhyay
Sensory & Consumer Researcher- Horticulture

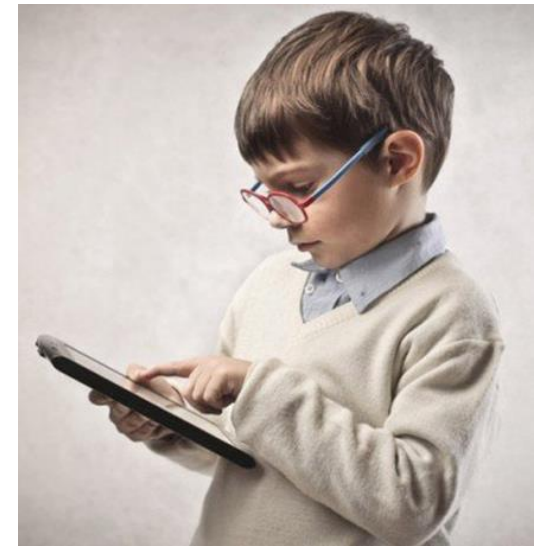
Consumers consistently seeking value and variety- change in consumer shopping behaviour



Traditional



Online



Present situation



What is the best way to describe and appreciate Australian table olives?



Survey

- ☒ Very Satisfied
- ☐ Satisfied
- ☐ Neutral
- ☐ Unsatisfied
- ☐ Very Unsatisfied



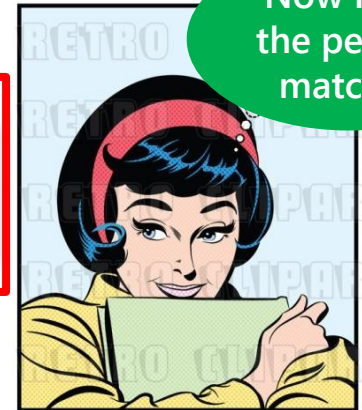
Consumer
Survey

Sensory
Evaluation

Consumer
Testing



Now I got
the perfect
match!!!



AN OLIVE FOR EVERY OCCASION

BLACK RIPE OLIVES

Enjoyable any time of day—either as a quick daytime snack or with an elaborate evening meal. Also try

SLICED BLACK RIPE OLIVES for complementary flavor.

STUFFED OLIVES

Combine almost any food with this Mediterranean favorite for delicious and creative flavor.

NATURAL AND SEASONED OLIVES

Green, black and colored olives taste delicious with their natural flavors.

GREEN OLIVES

STUFFED WITH PIMIENTO

Commonly used for hors d'oeuvres and work well with sharp cheeses.

SPANISH GREEN OLIVE

This year-round favorite is flavorful enough to stand alone, yet adaptable to make any dish more memorable.

QUEEN OLIVES

When pitted, can be used for stuffing, cooking or just plain old snacking.

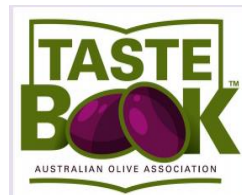


*Look for
the logo!*

AIOA Table Olive Classes 2018

	Class 11: GREEN OLIVES Plain, whole olives only, no added flavours. In Brine.		Class 16: DRIED OLIVES Sun, salt and heat dried olives, including spiced and pitted
	Class 12: MEDLEY of OLIVES Plain, whole olives only, no added flavours. In Brine.		Class 18: SPECIALTY OLIVES Spiced and specially treated olives with declared country of origin ingredients
	Class 13: OLIVES TURNING COLOUR & BLACK OLIVES All varieties EXCEPT KALAMATA OR California ripe processed. Plain whole olives only, no added flavours. In Brine.		Class 18(a): – flavoured WITHOUT garlic and/or chilli. Class 18(b): – flavoured WITH garlic and/or chilli.
	Class 14: KALAMATA OLIVES Plain whole olives only, no added flavours. In Brine.		Class 18(c): PITTED OR STUFFED OLIVES Olives pitted or stuffed with declared country of origin ingredients.
	Class 15: WILD OLIVES Small in size, variations in colour permitted, whole olives only. In Brine.		Class 19: TAPENADES Olive tapenades – various recipes.

A description example



	Things to look for	Comments
Appearance	Blemish (does the olive appear blemished?)	Clean unblemished fruit characteristic of the Kalamata olive
	Colour (is the olive colour appealing?)	Appealing purple colour
Aroma	First impression - appealing or unappealing aroma? Aromatic, floral? Intense or subdued?	Appealing intense floral aroma
	Malodourous - abnormal fermentation – putrid, butyric, Zapateria (rotten leather) Winey-vinegary, nail polish solvent	No abnormal aroma
Flavour	Evidence of off flavours – rancid, musty, cooked, soapy, metallic, earthy, acidic	No off flavours
	Does the exhibit have any specific olive flavours? What are the levels of bitterness (minor to overpowering)? Evidence of other flavours including varietal, preservation (vinegar, oil), added flavourings (citrus, garlic, chili, herbs)	Pronounced olive flavour, with well-balanced bitterness.
	Flavour balance, Flavour transference - does the aroma match the flavour? Length of flavour (short to lingering)	Well balanced flavours and aroma with lingering flavours
	Saltiness, slight, just right, too salty Acidity - slight, just right, high	Saltiness and acidity just right
	Hardness - finger squeeze test – soft, firm, hard? Bite test – skin thickness – tough, resistant, fine	Firm texture, good skin thickness
	Chewing test - flesh texture– smooth, mushy, granular, lumpy, fibrous Crunchiness – low, moderate, high?	Smooth even mouthfeel with moderate crunchiness
Texture	Ease of flesh removal? Flesh-to-pip ratio, lean, fleshy?	Generous fleshy olive that easily bites away from the pip

Final tasting comment:

Attractive purple coloured fruit with no blemishes. Clean floral aroma flowing onto the palate with intense olive flavour and balanced saltiness. Well balanced flavours and aroma with lingering flavours. A firm texture with good skin thickness, moderately crunchiness and generous flesh. The lingering mouthfeel is smooth with balanced bitterness and acidity.

Table olive descriptors for Judging

SKIN: The skin of the fruit should be fine, smooth and not wrinkled, yet elastic and resistant to handling damage.

FLESH: Should be firm but not woody or granular. Green olives should have firm, crisp flesh, ripe or black olives will have softer flesh due to the fruit being more mature than green olives, however it shouldn't be soggy or flabby. The flesh should separate easily from the stone.

BLEMISHES: Blemishes should be absent however some white spots on green olives are natural, others such as gas pockets or blistering are caused by processing, and organisms.

COLOUR: Green olives should be bright green to strawy green colour. Some dulling may occur after several months in brine. Lye treated green olives are very bright green. Olives turning colour should be pale pink, and black olives vary from dark pink to black or winey colour.

BITTERNESS: The olive shouldn't be bitter to taste but some bitterness can be balanced by the amount of saltiness and olive flavour.

SALTINESS: The level of salt governs the flavour of the olive and must be balanced with the bitterness and acidity.

FLAVOUR: the olive should have an appealing fruit flavour, which for green olives often is a typical fermentation taste but retaining 'olive' character, and for black olives is a stronger olive flavour. There should be no 'off' aromas such as rancid, cheesy or faecal aromas.





WHAT MAKES A GOLD MEDAL TABLE OLIVE? On first impression a gold medal table olive has an attractive fresh-looking appearance with an absence of skin blemishes, pock marks, dents and bruises. The olive's colour, size and shape are consistent and in line with the class entered. The olive's aroma (and brine) is fresh, clean (fault free) and appealing. On the palate the olive's skin is firm but easy to bite (not tough). Flesh on green olives is firm but not woody. Flesh on black olives have reduced levels of firmness (i.e. softer) but not mushy. The olive has excellent olive flavour. Any added flavourings or fillings (herb, EVOO, garlic, chilli) are good quality and compliment the olive flavour – not overwhelm it. Bitterness and acidity and salt levels are in balance and neither are overpowering. A gold medal table olive is balanced, has great texture and is complex with a long flavourful finish. You will want to eat the whole bowl full.



GOORAMADDA OLIVES KALAMATA

26/30, Class 14

Great appearance, even colour and size, aroma slightly acidic, skin and flesh texture very good, prominent olive flavour, salt and bitterness in balance.



BEST IN CLASS 14



SALUTE OLIVA, SEMI DRIED OLIVES

27/30, Class 16

Semi dried large Kalamata, consistent colour and size, attractive appearance, lovely fruity aroma and flavour, flesh texture good with strong skin, bitterness lingers slightly and olive flavour strong and lasting, salt acceptable. Delicious.

🏆 **BEST TABLE OLIVE IN SHOW**

🏆 **BEST TABLE OLIVE IN SOUTHERN HEMISPHERE**

🏆 **BEST TABLE OLIVE IN AUSTRALIA**

🏆 **BEST IN CLASS 16**



BRUNY ISLAND OLIVES ROSE OLIVES

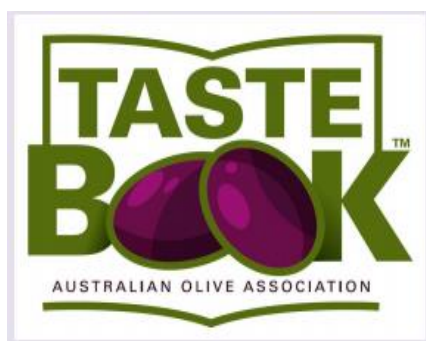
26/30, Class 15

Black and turning colour, no blemishes, attractive straw like aroma, skin texture slightly tough, flesh texture appealing, ripe olive flavour consistent with aroma with intensity and persistence, matches bitterness.



BEST IN CLASS 15





National TasteBook™ Workshop

The Australian Olive Industry Sensory Training Program



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Sensory and Consumer Science Researcher

NSW Department of Primary Industries



**Department of
Primary Industries**

**Hort
Innovation**
Strategic levy investment

**OLIVE
FUND**

Contents

Introduction.....	3
TasteBook™ discussion notes and important definitions	4
Olive oil attribute definitions	4
Olive oils have fruit, bitterness and pungency	4
Characteristics of an extra virgin olive oil (EVOO)	5
When practising olive oil tasting:.....	5
Classification of olive oils under the Australian Standard (AS5264-2011®).....	6
Extra Virgin Olive Oil (EVOO).....	6
Virgin Olive Oil (VOO)	7
Lampante	7
Positive attributes.....	7
Sensory evaluation/organoleptic testing of EVOO.....	8
Olive oil fault/defect definitions	9
The sensory experience of an EVOO.....	11
Table olive attribute definitions	13
Sensory evaluation/organoleptic testing of table olives	13
Table olive faults/defect definitions	14
Australian International Olive Awards (AIOA) table olive classes.....	15
Olive oil assessment sheets are available from Page 18- 24 and table olive assessment sheets are available from Page 25- 29.....	17

Introduction

The Australian olive industry produces olives that are used to make oils (predominantly for human consumption, but also for a range of industrial purposes) and table olives. Extra virgin olive oil (EVOO) is a monounsaturated fat, high in antioxidants and regarded as one of the healthiest edible oils. The Australian olive oil industry, while small on a global scale, has the benefit of being modernised and is thus able to produce a consistently high quality product when compared to the traditional producing countries in the Mediterranean.

TasteBook™ is a sensory training initiative, the first of its kind in Australia, which shares the experience of appreciating, describing and understanding the sensory quality of EVOO and table olives from a national perspective. This project will ensure the Australian olive industry is equipped with the necessary skills to enable ongoing monitoring of the sensory attributes of EVOO and table olives aligned with industry specifications for quality.

This program brings together sensory panellists, olive oil show judges, growers and producers to assess and evaluate the same samples comfortably wherever they are. They can then provide valuable insight for describing the oil and the olives, as well as the style, quality and potential uses of the products. The aim is to expose industry participants to regular sensory experiences and palate calibration for olive products both nationally and internationally, to improve their understanding of how to appreciate and judge these products and achieve consistent product quality and excellence for Australian EVOO and table olive products.

The overall objectives of the project are to help Hort Innovation and the Australian olive industry to provide a series of integrated staged (beginner – intermediate – expert) training programs to support not only maintaining the ongoing knowledge of nationally and internationally accredited sensory panellists and competition judges; but also encouraging new entrants or educating beginners on how to actively fit the quality, flavour and presentation of extra virgin olive oil (EVOO) and table olives (TO) to match evolving and increasing market demands.

In summary, the TasteBook™ workshop aims to:

1. Provide regular tasting experiences and training to upskill an expanded pool of Australian EVOO and table olive judges.
2. Facilitate improved industry awareness, knowledge, skills and capacity in sensory assessment of EVOO, table olives and other olive products.
3. Enhance a culture of continuous improvement and excellence in the Australian olive industry.

TasteBook™ discussion notes and important definitions

Olive oil attribute definitions

The formal definitions from the International Olive Council (IOC) profile sheet for EVOO are:

Fruity

- A set of olfactory sensations characteristic of the oil that depends on the variety and come from sound, fresh olives, either ripe or unripe.
- It is perceived directly and/or through the back of the nose.
- It also consists of the flavours of the oil perceived in the mouth.

Bitter

- The characteristic primary taste of oil obtained from green olives or olives changing colour.
- It is perceived in the circumvallate or the 'V' region of the tongue.
- Not to be confused with sour (coffee is bitter, lemon is sour).

Pungency

- A biting tactile sensation characteristic of oils produced at the start of the crop year, primarily from olives that are still unripe.
- It can be perceived throughout the whole of the mouth cavity, particularly in the throat.
- Pungency is a physical warm sensation (for example, chilli is pungent)
- Not to be confused with bitter (bitter is a flavour)

Olive oils have fruit, bitterness and pungency

- When the fruit, bitterness and pungency characteristics of olive oils are intense, the oils are described as 'robust', and will usually be from early season harvest.
- The oils that are described as 'medium' or 'mild' are riper oils and they have less intense characteristics of fruit, bitterness and pungency.
- 'Delicate' oils are those that are usually picked late in the season. In an excellent sample, the fruit flavours can be subtle and at the same time there will be minimum bitterness or pungency.

The question: Is EVOO still EVOO when there is no bitterness or pungency? The answer is YES, because the critical controls are the presence of fruit characteristics and the absence of faults.

The International Olive Council (IOC) has another two categories; 'green' and 'ripe'. When we think of 'green' (which is generally where 'robust' sits), some of the words we might think about include:

Almond, artichoke, balance, bitter herbs, chilli, excellent, good, grass, green apple, green banana, harmony, intense, lingering, pea shoots, pepper spice, salad leaf, short, tomato vine, tomato leaf, very good.

Some of the descriptors one might associate with 'ripe' include 'tropical fruit notes', including but not limited to apple, passionfruit, pear, pineapple, ripe tomato and ripe banana. These oils may have less intense bitterness and pungency and are described as medium or mild.

Delicate oils have almost no bitterness or pungency and the "fruit taste" can be perceived as confectionary, floral, or mild berries.

In each of the **robust**, **mild** and **delicate** categories, in the context of EVOO show judging in Australia:

- Good examples are awarded Bronze medals
- Very good examples are awarded Silver medals
- Excellent examples are awarded Gold medals.

Characteristics of an extra virgin olive oil (EVOO)

All olive oils are subject to the same chemical analysis and sensory evaluation. However, they will not all taste the same. Many factors will affect the oil aroma and flavour including:

- Olive varieties
- Soil and climate
- Time of harvest
- Storage of fruit between harvest and processing
- Processing and storage of oil

When practising olive oil tasting:

Please remember the following primary considerations:

- Aroma (olfactory sensations)
- Flavour (gustatory sensations)
- Consistency
- Complexity/persistence (balance and harmony)

Aroma

We can have more than 3,000 aromas in our sensory memory. We can smell fresh, fruity and intense aromas, the same as we can smell if the oil is becoming tired, ageing or if there is a fault or defect, such as rancidity, mustiness or fustiness.

Flavour

Fresh oils have the highest level of flavour. Characteristics of the olive fruit will dominate, however, flavours can also be herbaceous or may include vine, tomatoes, citrus, fresh vegetables or nuts, or tropical fruits. As you swallow, you will become aware of other sensations, such as bitterness, followed by pungency or piquancy.

Note that personal preferences are to be dismissed when judging oil. Descriptions of flavours can be divided between positive and negative attributes.

Consistency

Consistency applies to both judges and the oil. Judges should strive for consistency when judging oil. It is disconcerting when one judge at a table wants to award a gold medal whilst another judge claims that particular oil is faulty. There must be a complimentary consistency between aroma and flavour, which leads to a balance and harmony in the oil.

Complexity/persistence

Complex – multi dimensional, balanced or harmonious.

Persistence – long lasting with a pleasant aftertaste.

Or

Overly bitter, peppery or pungent, unbalanced

Short finish, unpleasant aftertaste

Classification of olive oils under the Australian Standard (AS5264-2011®)

Extra Virgin Olive Oil (EVOO) – is an unrefined olive oil containing no more than 0.8% oleic acid. It should have a distinct fresh nose and flavour, and a light, but strong, peppery finish. There should be fruitiness (Median of Fruitiness > 0) and no undesirable defects.

Virgin Olive Oil (VOO) – has greater than 0.8% and no more than 2% free oleic acid content. The aroma and flavour is less intense than EVOO. There should be fruitiness (Median of Fruitiness > 0) but may have mild defects (Median of Defects ≤ 2.5).

Under the Australian Standard, the oleic acid content of olive oil can be between 53% and 85%. The higher the % oleic acid (a mono-unsaturated fatty acid), the higher is the oxidative stability of the oil. The higher is the free fatty acid (FFA), the more rapidly the oil will oxidise and produce the rancid defect. Growers often confuse between FFA and FAP-oleic acid.

Lampante – has free oleic acid content greater than 2%, and is past its use by date, with obvious defects (Median of Defects > 2.5).

Positive attributes

Apple/green apple – indicative of certain olive varieties

Almond – nutty (fresh not oxidised)

Artichoke – green flavour

Astringent – puckering sensation in mouth created by tannins; often associated with bitter, robust oils

Banana – ripe and unripe banana fruit

Bitter – considered a positive attribute because it is indicative of fresh olive fruit

Buttery – creamy, smooth sensation on palate

Eucalyptus – aroma of specific olive varieties

Floral – perfume/aroma of flowers

Forest – fresh aroma reminiscent of forest floor, not dirty

Fresh – good aroma, fruity, not oxidised

Fruity – refers to the aroma of fresh olive fruit, which is perceived through the nostrils and retronasally when the oil is in one's mouth

Grass – the aroma of fresh-cut (mowed) grass

Green/greenly – aroma/flavour of unripe olives

Green tea – characteristic of some unripe olive varieties

Harmonious – balance among the oil's characteristics with none overpowering the others

Hay/straw – dried grass flavour

Herbaceous – unripe olive fruit reminiscent of fresh green herbs

Peppery/pungent – stinging sensation in the throat that can force a cough

Piquant – pleasantly pungent, tart or biting in taste

Ripely – aroma/flavour of ripe olive fruit

Round/rotund – a balanced, mouth-filling sensation of harmonious flavours

Spice – aroma/flavour of seasonings such as cinnamon, allspice (but not herbs or pepper)

Sweet – not sugary, characteristic of delicate oils

Tomato/tomato leaf – indicative of certain olive varieties

Tropical – indicative of ripe olive fruit with nuances of melon, mango, and coconut

Walnut/walnut shell – nutty (fresh not oxidised)

Wheatgrass – strong flavour of some green olive fruit

Woody – indicative of olive varieties with large pits

Sensory evaluation/organoleptic testing of EVOO

The IOC recommends no more than 30 seconds on the nose. Even accounting for individual differences, more than 30 seconds can influence decision making. The process for tasting is:

1. Ensure the mouth has been rinsed in plain or mineral water and cleansed with a slice of apple.
2. Relax and drop the shoulders.
3. Hold the blue sample cups in your palm and warm the oil (please see the demonstration by the facilitator).
4. Hold the cup to the nose. Do not allow the nose to penetrate inside the tasting cup when sniffing. Think to yourself; what do I smell? (please refer to the page number 7-8 in this workbook for identifying positive attributes). Make a note.
5. Sip the oil through the front teeth and roll around the palate, allowing the fruit flavours and bitterness to develop. Swallow some oil. Pungency should be felt at the back of the throat, sometimes instantaneously, although not always.
6. Finally, evaluate your thoughts on the taste. Was it fruity or sweet? Herbaceous? Was a fault detected? Rancid, winey, fusty, musty, generally unpalatable. Make a decision and note it down. Write what you feel. Learning to taste oil as a judge, grower or just someone who has an interest takes time, and is a never-ending process.

Olive oil fault/defect definitions

Defects due to fruit condition

If the tasting panel agrees that it can detect any of the following negative undesirable defects then the product is not EVOO.

Fusty: is typical of olive pomace paste, tapenade, olive mill waste pond, and black pickled mushy olives. Fustiness results from ripe olives, especially if stored in piles, sacks, overfilled crates or poorly ventilated containers warm up and allow anaerobic (without air) fermentation to develop. Growth of bacteria (e.g. *Enterobacter*, *Clostridium* and *Pseudomonas*) allows fustiness to develop within three or four days. Ideally, olives should be stored in shallow containers (no deeper than 300 mm) that allow airflow from all sides. The fustiness defect is associated with n-octane, generated from the decomposition of 10-hydroperoxide and isoamyl alcohol formed during fermentation.

Musty: is typical of sweaty socks, gym clothes bag, wet carpet, mouldy hay, yeasty and mushrooms. The musty defect comes from fruit in which large numbers of fungi, moulds (*Penicillium*, *Aspergillus*) and yeasts have developed when stored in humid conditions, especially in piles. Mustiness can set in after four to six days under poor storage conditions.

Winey/vinegary/acid/sour: this defect is typical of fermented red apples, nail polish, solvent, or yeasts. The perceived flavour is similar to wine and vinegar due to aerobic (with air) fermentation in the olives where storage yeasts predominates over some bacteria. Sugars are converted to ethanol (alcohol) to acetic acid to ethyl acetate (aromatic ester).

Frosty: vanilla, wet wood, wet hay and stewed fruit.

Dried and mummified fruit: defective olive oil can have characteristics of dry hay, pips (stones), wood or mouldy straw. Oil made from mummified fruit (old fruit from previous years), fruit affected by drought or desiccated through extended cool room refrigeration can have this defect. Olives diseased with anthracnose (partly mummified) drop prematurely from trees resulting in yield loss and when pressed they produce a very turbid and highly acidic reddish poor quality oil.

Grubby: a distinctive dirty flavour, obtained from olives that have been heavily attacked by olive fly (*Bactocera oleae*). The olive fly lays eggs in the developing olive and the larvae feed on the pulp. Olive fly increases the free fatty acid content.

Earthy: an earthy sensation, dirty, sandy feel in the mouth. Olives collected with earth or mud on them and not washed properly or from washing with dirty dam water.

Briny: the flavour of olive oil produced from olives preserved in brine.

Defects due to crushing/malaxation process

Metallic: the sensation of metals, tins, rusty nails and grinding dust. Oil can have a metallic flavour if it has been in prolonged contact with metallic surfaces during crushing, mixing, pressing or storage. New equipment or equipment starting up for the first time in the season may impart metallic flavours to the oil.

Burnt/heated is the sensation of burnt caramel, honey, boiled vegetables. This defective flavour is caused by excessive temperature and/or prolonged heating during processing, especially crushing and malaxation.

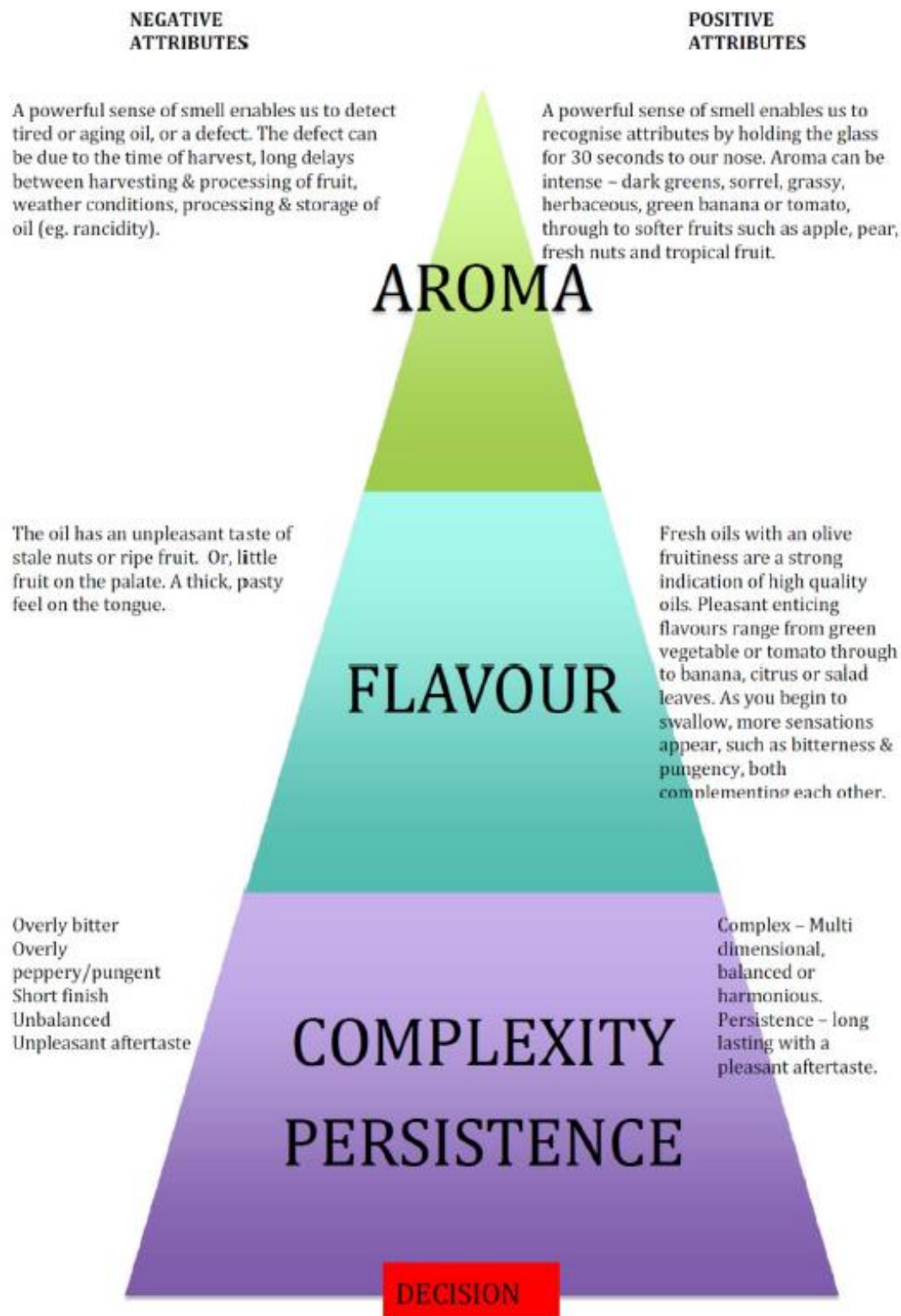
Vegetable water: Olive oil has a flavour reminiscent of vegetable water due to prolonged contact with olive mill water

Defects due to olive oil storage

Rancid: this defect is typical of old oils, stale walnuts, old butter, meats, wax crayons, old lipstick and putty.

Muddy sediment: this defect is reminiscent of salami, bacon, fetid milk, baby vomit, sewer dregs, and cheese. Muddy sediment refers to the taste imparted into oils that sit over the bottom of tanks for prolonged periods. Sediment is made up of plant debris, enzymes, proteins and glucosides, and it forms at the bottom of containers and can give the oil the flavour of vegetable water, or a putrid effect if the dregs undergo anaerobic fermentation. As little as 0.5% sediment can be a problem. Excessive contact of oil with sediment can increase the free fatty acid content, lowering the oil quality.

Greasy: affected olive oil has the taste and mouth feel reminiscent of diesel oil, grease or mineral oil.



The sensory experience of an EVOO

Extra Virgin Olive Oil (EVOO) Descriptor Training

Each description should include information from each of the sections below.

	Things to look for	Comments
Aroma	First impression (Clean or possible fault), Fresh or not fresh?	
	Intensity (Pronounced or low - lots of or little aroma, powerful, good/bad, hard to smell, closed)	
	What does it smell like? Green, tropical, tomato, dried herb? Need at least 3 descriptors.	
Flavour	Intensity (lots or little flavour, powerful, good/bad, hard to taste?)	
	Flavour transfer: Does the taste reflect the aroma?	
	What does it taste like? Note flavours. Need at least 1 extra descriptor if possible.	
	Quality (fresh, balanced, complex, interesting, lots going on, simple, boring). Note possible faults here.	
Mouthfeel	Mouthfeel (light, heavy, oily, astringent, pepper, bitterness, dry mouth), short or long aftertaste	

Final tasting comment:

A description example:

	Things to look for	Comments (an example)
Aroma	First impression (Clean or possible fault), Fresh or not fresh?	<i>Clean, fresh.</i>
	Intensity (Pronounced or low - lots of or little aroma, powerful, good/bad, hard to smell, closed)	<i>Pronounced intensity.</i>
	What does it smell like? Green, tropical, tomato, dried herb? Need at least 3 descriptors.	<i>Ripe tomato flesh, passionfruit, green herb.</i>
Flavour	Intensity (lots or little flavour, powerful, good/bad, hard to taste?)	<i>Intense/strong flavours on palate</i>
	Flavour transfer: Does the taste reflect the aroma?	<i>Good flavour transfer.</i>
	What does it taste like? Note flavours. Need at least 1 extra descriptor if possible.	<i>Same as nose with mango notes.</i>
	Quality (fresh, balanced, complex, interesting, lots going on, simple, boring). Note possible faults here.	<i>Complex, many layers,</i>
Mouthfeel	Mouthfeel (light, heavy, oily, astringent, pepper, bitterness, dry mouth), short or long aftertaste	<i>Light mouthfeel. Mild pepper, touch of bitterness. Long flavourful length.</i>

Final tasting comment would read:

Fresh clean oil with pronounced fruit intensity. Strong aromas of ripe tomato flesh, passionfruit and green herb on the nose follow onto the palate with the addition of mango notes. Complex oil with a light mouthfeel, mild pepper and a touch of bitterness. Long flavourful length.

Table olive attribute definitions

Appearance

Observe the olive, if it is consistent with cultivar, general condition, colour, blemishes, marks, pressure marks.

Texture

Hardness, crunchiness, flesh texture.

Finger test: gently squeeze the olive between thumb and fore finger – grade soft, firm, hard. Soft olives may be due to poor quality fruit, over ripe black olives, microbiological activity.

Bite test:

- skin thickness – tough, resistant, fine
- flesh characteristics – smooth, granular, lumpy, and fibrous
- ease of flesh removal.

Aroma

Aromatic vs malodourous (unpleasant).

Taste

- Olive flavour
- some bitterness with/without overtones e.g. floral, salt, vinegar, lemon, herbal, spicy, balance
- abnormal – rancidity due to additives
- poor quality olive oil or herbs and spices
- addition of food acids to adjust pH (chemical taste)
- contaminated water or olives.

Sensory evaluation/organoleptic testing of table olives

1. Ensure the mouth has been rinsed in plain or mineral water and cleansed with a slice of apple.
2. Separate the olives from the brine – retain the olives and brine in separate glass tumblers.
3. Assess the appearance, size, shape, colour and any blemishes.
4. Assess the aroma of both the olives and the brine - aromatic vs malodourous.
5. Assess the flavour – bitterness, salt and acid balance, any off flavours?
6. Assess the texture of the flesh and skin – finger squeeze and bite test, crunchiness, and ease of flesh removal.

Table olive faults/defect definitions

Defects attributable to abnormal proliferation of microorganisms are:

Olive softening and shrivelling

Naturally black ripe olives are generally softer than green ripe olives with turning colour olives intermediate. Further softening can occur during processing due to proliferation of bacteria, moulds and yeasts. This problem can be reduced by controlling initial pH. Shrivelled olives can result from processing at high salt levels or from excessive gas production where gas collects under the skin (gas pockets burst leaving a shrivelled appearance). Acutely affected olives float towards the brine surface and are called 'floaters'. Olives that are dried with salt and/or heat also have a shrivelled appearance.

Malodourous fermentations

These are associated with specific bacteria:

- Putrid reminiscent of decomposing organic matter – faecal, urine – occurs early in fermentation due to contaminated olives, water and/or additives by clostridium bacteria.
- Butyric fermentations occur early during fermentation due to butyric forming bacteria giving rancid characteristics of old butter.
- Zapateria malodour is due to generation of propionic acid during fermentation under the influence of bacteria – clostridia and propionic bacteria. Malodour is due to a mixture of propionic acid, other fermentation acids and cyclohexane carboxylic acid.
- Winey-vinegary is due to bacterial and yeast fermentation products such as food acids and alcohol (separate from vinegar added as a preservative).
- Nail polish remover solvent odour is due to overproduction of alcohol that reacts with fermentation acids forming ethyl acetate.
- Mouldy odours result from moulds forming during fermentation.
- Musty odours are mainly due to *Penicillium* species together with specific fungi such as *Aspergillus* and *Alternaria*.
- Acid related odours result from excess lemon (citric acid), or the addition of lactic acid to control pH.

Australian International Olive Awards (AIOA) table olive classes

	Class 11: GREEN OLIVES Plain, whole olives only, no added flavours. In Brine.		Class 16: DRIED OLIVES Sun, salt and heat dried olives, including spiced and pitted
	Class 12: MEDLEY of OLIVES Plain, whole olives only, no added flavours. In Brine.		Class 18: SPECIALTY OLIVES Spiced and specially treated olives with declared country of origin ingredients
	Class 13: OLIVES TURNING COLOUR & BLACK OLIVES All varieties EXCEPT KALAMATA OR California ripe processed. Plain whole olives only, no added flavours. In Brine.		Class 18(a): – flavoured WITHOUT garlic and/or chilli. Class 18(b): – flavoured WITH garlic and/or chilli.
	Class 14: KALAMATA OLIVES Plain whole olives only, no added flavours. In Brine.		Class 18(c): PITTED OR STUFFED OLIVES Olives pitted or stuffed with declared country of origin ingredients.
	Class 15: WILD OLIVES Small in size, variations in colour permitted, whole olives only. In Brine.		Class 19: TAPENADES Olive tapenades – various recipes.

Table Olive Descriptor Training

A description example

	Things to look for	Comments
Appearance	Blemish (does the olive appear blemished?)	Clean unblemished fruit characteristic of the Kalamata olive
	Colour (is the olive colour appealing?)	Appealing purple colour
Aroma	First impression – appealing or unappealing aroma? Aromatic, floral? Intense or subdued?	Appealing intense floral aroma
	Malodourous – abnormal fermentation – putrid, butyric, Zapateria (rotten leather) Winey-vinegary, nail polish solvent	No abnormal aroma
Flavour	Evidence of off flavours – rancid, musty, cooked, soapy, metallic, earthy, acidic	No off flavours
	Does the exhibit have any specific olive flavours? What are the levels of bitterness (minor to overpowering)? Evidence of other flavours including varietal, preservation (vinegar, oil), added flavourings (citrus, garlic, chilli, herbs)	Pronounced olive flavour, with well-balanced bitterness.
	Flavour balance, Flavour transference – does the aroma match the flavour? Length of flavour (short to lingering)	Well balanced flavours and aroma with lingering flavours
	Saltiness, slight, just right, too salty Acidity – slight, just right, high	Saltiness and acidity just right
Texture	Hardness - finger squeeze test – soft, firm, hard? Bite test – skin thickness – tough, resistant, fine	Firm texture, good skin thickness
	Chewing test - flesh texture– smooth, mushy, granular, lumpy, fibrous Crunchiness – low, moderate, high?	Smooth even mouthfeel with moderate crunchiness
	Ease of flesh removal? Flesh-to-pip ratio, lean, fleshy?	Generous fleshy olive that easily bites away from the pip
Final tasting comment: Attractive purple coloured fruit with no blemishes. Clean floral aroma flowing onto the palate with intense olive flavour and balanced saltiness. Well balanced flavours and aroma with lingering flavours. A firm texture with good skin thickness, moderately crunchiness and generous flesh. The lingering mouthfeel is smooth with balanced bitterness and acidity.		

Time to taste olive oils and table olives



**Olive oil assessment sheets are available from Page 18- 24
and table olive assessment sheets are available from Page
25- 29.**

Extra virgin olive oil assessment sheet**Sample description/number:****Date:**

	Things to look for	Comments
Aroma	First impression (clean or possible fault), Fresh or not fresh?	
	Intensity (pronounced or low – lots of or little aroma, powerful, good/bad, hard to smell, closed)	
	What does it smell like? Green, tropical, tomato, dried herb?	
Flavour	Intensity (lots or little flavour, powerful, good/bad, hard to taste?)	
	Flavour transfer: does the taste reflect the aroma? Note the length of the flavour too- lingering or short.	
	What does it taste like? Note flavours. Write different flavour descriptors as they come to your mind.	
	Quality (fresh, balanced, complex, interesting, lots going on, simple, boring). Note possible faults here.	
Mouthfeel	Mouthfeel (light, heavy, oily, astringent, pepper, bitterness, dry mouth), short or long aftertaste	

Final tasting comment:

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	What does it smell like? Green, tropical, tomato, dried herb?	
Flavour	Intensity (lots or little flavour, powerful, good/bad, hard to taste?)	
	Flavour transfer: does the taste reflect the aroma? Note the length of the flavour too-lingering or short.	
	What does it taste like? Note flavours. Write different flavour descriptors as they come to your mind.	
	Quality (fresh, balanced, complex, interesting, lots going on, simple, boring). Note possible faults here.	
Mouthfeel	Mouthfeel (light, heavy, oily, astringent, pepper, bitterness, dry mouth), short or long aftertaste	

Final tasting comment:

Extra virgin olive oil assessment sheet**Sample description/number:****Date:**

	Things to look for	Comments
Aroma	First impression (clean or possible fault), Fresh or not fresh?	
	Intensity (pronounced or low – lots of or little aroma, powerful, good/bad, hard to smell, closed)	
	What does it smell like? Green, tropical, tomato, dried herb?	
Flavour	Intensity (lots or little flavour, powerful, good/bad, hard to taste?)	
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Final tasting comment:

Table olive assessment sheet**Sample description/number:****Date:**

	Things to look for	Comments
Appearance	Blemish (does the olive appear blemished?)	
	Colour (is the olive colour appealing?)	
Aroma	First impression - appealing or unappealing aroma? Aromatic, floral? Intense or subdued?	
	Malodourous - abnormal fermentation – putrid, butyric, Zapateria (rotten leather) Winey-vinegary, nail polish solvent	
Flavour	Evidence of off flavours – rancid, musty, cooked, soapy, metallic, earthy, acidic	
	Does the exhibit have any specific olive flavours? What are the levels of bitterness (minor to overpowering)? Evidence of other flavours including varietal, preservation (vinegar, oil), added flavourings (citrus, garlic, chilli, herbs)	
	Flavour balance, Flavour transference - does the aroma match the flavour? Length of flavour (short to lingering)	
	Saltiness- slight, just right, too salty Acidity - slight, just right, high	
Texture	Hardness - finger squeeze test – soft, firm, hard? Bite test – skin thickness – tough, resistant, fine	
	Chewing test - flesh texture– smooth, mushy, granular, lumpy, fibrous Crunchiness – low, moderate, high?	
	Ease of flesh removal?	
	Flesh-to-pip ratio, lean, fleshy?	

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Final tasting comment:		



Thank very much for participating in TasteBook™ workshop, we hope it was a valuable learning experience for you and you had a great time!

This workshop program has been funded by Hort Innovation, using the Hort Innovation olive research and development levy, co-investment from the NSW Department of Primary Industries, the Australian Olive Association and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.