



WA HONEY BEE AND POLLINATION INDUSTRY STAKEHOLDERS REPORT 2022



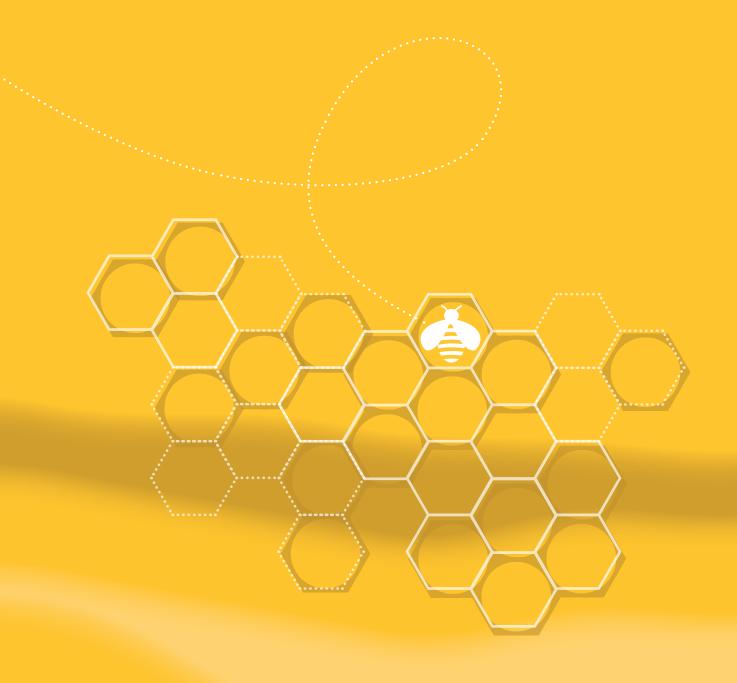
Prepared for the

APC BEEKEEPERS PRODUCERS' COMMITTEE

To support the industry Strategic Plan

MAY 2022

An Initiative Proudly Funded by the APC Beekeeper Producers' Committee



TA

The anti-microbial quality of Western Australia's honey is measured by the term 'Total Activity' or TA+

The higher the TA the greater the anti-microbial and anti-bacterial strength. The anti-bacterial activity of honey is derived via natural enzymes and chemicals in the honey. Any honey with a TA greater than 10+ may have beneficial anti-microbial properties and these properties are more effective as the TA level increases.

Traditionally honey has been used to heal small wounds and minor burns, soothe sore throats, prevent tooth decay and improve digestive issues.

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Executive Summary

This report was commissioned by the APC Beekeepers Producers' Committee to assist in the review and design of the next Strategic Plan for 2022-2025 to guide direction for the WA honey bee industry.

In the first stage of the project a Desktop Review and Analysis was conducted of the current global, Australian and Western Australian market situation for the honey bee and pollination industries (**Agknowledge®** July 2021). The report reviewed a wide range of industry reports and web-based information.

The second stage of the project designed and conducted a Beekeeper consultation to gauge current industry expectations and aspirations for their industry's future in WA (April 2022), and the focus of this third report incorporates further consultation with a wider range of stakeholders involved in the broader honey industry.

During April 2022 fourteen industry stakeholders were canvassed for their views and input on the WA honey, bee and pollination industry to help guide the future direction of industry and to assist the APC Beekeepers' Committee to re-set its strategic direction for the next five years. The stakeholders are representative of industry support groups, packers, wholesalers, retailers, researchers and other sectors, and included an agent, regulator, manufacturers, and a distributor.

Based on the overall feedback from stakeholders in this phase of the consultation the WA honey, bee and pollination industry appears to be fragmented, it is mainly run by volunteers, there is little engagement with stakeholders, it has no marketing focus, there are inconsistencies in honey availability, and there is a lack of industry standards.

Industry stakeholders believe there is great opportunity to professionalise the industry, establish a skills-based industry board, employ a Bee Industry Executive Officer and focus on the industry as a business. A number of opportunities were identified which could potentially lift the value of honey and the honey bee industry and increase revenue for beekeepers and stakeholders.

While there is always the risk of biosecurity incursions, WA currently has a strategic advantage in its biosecurity status and its clean and green image with honey that has high medicinal properties. These advantages could all be captured in an industry-led promotional and marketing campaign to educate consumers and raise awareness of WA honey and other by products.

Opportunities identified by industry include accessing funding for industry development with an Executive Officer employed to target export markets; marketing medicinal honey; engaging with industry stakeholders and building alliances and partnerships. Other opportunities include pollination services for horticultural crops; the development of industry standards around the Total Activity (TA) of honey; and advocating more on behalf of industry through a united voice.

Despite the potential identified for the WA industry, there is also concern that in the future there will not be enough hives and beekeepers to meet industry demand for pollination and honey, which will drive stakeholders to source honey from the eastern states or resort to using a blend of imported and Australian honey.

Industry stakeholders would like to see management of the WA bee, honey and pollination industry improved through consolidation of the representative groups and centralisation of activities and management. Currently it is perceived that the industry is fragmented and segmented, however it is heading in the right direction with the restructure of BICWA to become the peak industry body. It was raised that it is important to have a key body working on behalf of industry and supporting industry, and that it should represent the interests of both commercial and hobbyist beekeepers in order to protect the industry from key risks.



"Review the BICWA board; the industry doesn't have the right human capital to set up a board for success. You need to look at the skills on the board and how powerful they are. You can get a strategy and get the committee to be accountable to performance metrics and determine how to measure it to achieve it. On our board we have an indigenous traditional owner as we recognise Native Title is an issue. In the long term, BICWA and other state bodies will struggle with native title claims over beekeeping sites and having a representative that can be a trusted advisor for the indigenous interests is valuable." 14

Stakeholders also raised the importance of a higher level of industry and government engagement. With a peak industry body, it will allow important issues to be streamlined and communicated as once voice, without conflicting views, which they say has been the case in the past. It was also mentioned that industry needs to overcome the great divide and work more closely with the national body in AHBIC. There is confusion amongst some stakeholders as to who to talk to within the industry.

"In WA, BICWA is really quite advanced but segmented. If they want to be a big voice in beekeeping there has to only be one voice, then they need to start playing the national game and work collectively with eastern states groups to push honey as a whole, not just WA specific varieties. They should work with NSW, Victoria, Qld and AHBIC. There seems to be the great divide so it would be great to see everyone working together more. All I see from the management side is that I am not sure who to talk to and it feels segmented." 13

The majority of stakeholder respondents (72%) support the employment of a Bee Industry Executive Officer. It is thought that an Executive Officer will help professionalise the industry and allow for coordination through a more cohesive approach within industry and allow for all the groups to be brought together as one voice that speaks on behalf of beekeepers.

A paid employee could be more effective, industry activities would be streamlined, issues responded to in a timely manner and provide access to grants/funding. It was also mentioned that the person would not have a direct industry bias and would have the interests of the industry at heart. With knowledge and experience, the Executive Officer could help take the WA honey and bee industry to the next level.

"I would support it. Beekeepers have enough of a hard time running their own business if they want someone commercially focused, they need to pay someone to do it. It would be beneficial to industry and ultimately it should improve production of beekeepers in WA therefore the volume of honev will increase and if it does it will help packers. It depends on how the role is defined, if they are working for the beekeeper or the whole industry. Would it help us? It would if we had a central person to talk to. A paid position if it is warranted might do a better job, rather than a lot of volunteers." 4

Concern was raised that the Executive Officer would need to spend time resolving personality clashes within industry, and the position will require protocols to be put in place to enable decisions to be made to move the industry forward.

Ideas from stakeholders on how to fund industry development and employment of an Executive Officer include through industry raised funds; government support and political leverage; funds from packers; and a range of other opportunities including fundraising, a tariff on imported honey, and the establishment of a honey co-operative. The position requires an appropriate salary package to attract and retain an employee.

It was mentioned that industry, beekeepers themselves, should invest and come up with the ideas rather than be told by government, so they then own and control the outcomes. Suggestions include an annual membership fee for both commercial and hobbyist beekeepers, and for others with a vested interest in industry. An increase in the Fee for Service via the APC was also suggested, however in order for industry to access those funds the functions of the APC would need to be opened up to include export development and industry marketing.

A levy for honey packers was another opportunity a packer raised; packers could do more to help the industry as they are making good money sending medicinal honey overseas. One packing company, Australian Honey Ventures (AHV) is committing to giving back 1% of their total revenue to industry. It was suggested they may look at BICWA, but it certainly provides an opportunity for industry to access funds and align themselves with companies who want to have a positive social impact.

"AHV is committed to giving back 1% of total revenue to industry. Right now, we also pay 4c/kg back to industry through the National Levy which is mandatory. Only a pittance goes to honey. Everyone is broke, we are a social enterprise and we have built in 1% total revenue to go straight to industry. We haven't worked out how to give it and who to give it to. Most of our revenue comes from WA support, we are not interested in pollination but more so in lifting the value of honey and putting WA on the map in terms of an international reputation. We may look at BICWA but we will still have an element of control over how it is spent, it is a way for industry to get money. Align themselves with companies like AHV; private enterprise who want to have a positive social impact as part of the model is giving back." 14

Industry could also advocate to both state and federal government for their support and the opportunity to sit around the table to discuss how to strategically advance the industry in a sustainable way. It could push for more support through access to government funding initiatives, in-kind support from government in the form of an office and administrative duties, and for research funds to focus on WA specific research. There is opportunity for industry to leverage funds with government resources, as a way to create additional capacity.

"There is a role for state and federal government – do they genuinely support diversification of our economy away from mining, if they do support these industries then they need to do more than paying for the role, they should also come to the table to talk about fires, management, and access. All beekeepers are passionate environmentalists at heart and they don't want to see a version of Tasmania where no one cares about native pollinators." ²

Another suggestion was to establish a royalty per kg of honey sold, and to investigate additional non-honey funding opportunities in pollination. Imported honey could also attract a greater tariff to protect industry from adulterated honey and from disease, and to allow funds to be redirected into a marketing campaign to access markets and fund an Executive Officer. Building alliances and partnerships with industry stakeholders is also important to access funds.

"Any time Australia imports honey there should be a tariff to protect industry from adulterated material or false honeys and potential disease but also to provide local industry with access to markets as those tariff funds could be channelled back directly to fund marketing campaigns or the EO." 8

Development of an industry co-operative to market honey, like the dairy industry, that could pack into different brands and export product and be overseen by the Executive Officer, could also help fund the position. Other ideas for pursuing additional funds include through the hive registration process and unregistered hives; the federal honey levy; fundraising; sponsorship; donations; and capitalising on the IP and research done by the CRC.

Challenges

The biggest challenges stakeholders identified for the WA honey, bee and pollination industry include lack of industry standards and standardised testing for TA levels; inconsistencies in the supply of honey; lack of industry collaboration and professionalism; ignorance of legislation and fraudulent activity. Others include lack of collaboration with industry stakeholders; WA specific research; and pricing issues with WA honey.

There appears to be a lot of confusion and upheaval within industry around the TA rating of honey. Despite a current industry maximum testing level of 35 (through the ChemCentre), people are falsely labelling their products with a higher TA and forging documents in international markets. As raised by a wholesaler, it is hard when they are trying to build trust with consumers but others are putting 55 TA on a label. While industry wants a quick, cheap, and robust test for TA it is not possible as a researcher outlined as robust needs to stand up in the court of law and requires lab-based testing.

"There needs to be the same rules for everyone when referring to TA levels on Jarrah honey and Blackbutt and Marri. You speak to some beekeepers and they hold the line of 35 TA plus and then there are others who have 55 plus on their labels. It should be said that these are the rules when you work within WA as it is hard when certain players do their own thing. From the lab testing point of view on high grade products, ChemCentre's view is that even if it tests higher than that only label it 35 because of deviation errors. Certain players are getting frustrated and I am aware of labels that will be coming out stating higher levels. 35 is the max level. My major bugbear is the sheer expense of getting testing done for honey, which means that people don't test or cherry pick their best production to get the result they want and then use that to sell everything rather than test every sample, as testing is cost prohibitive." 2

The ChemCentre has its own challenges in terms of the sustainability of their involvement in R&D in the industry. With the CRC now winding up, they believe they will struggle to survive commercially. A wholesaler mentioned that it would be good to see more samples going through the ChemCentre so they can have more confidence about what is in the jar when selling to consumers. Relationships are currently built on trusting the beekeeper and are not science based.

"For us the challenge is sustainability of our (ChemCentre) involvement - yes, we can continue to do bits and pieces but we can only stay in that research area if it is large enough to provide the funding that is necessary to do that work. For us it needs to have continuity to it. We have been fortunate with our involvement with CRC but struggle to see how it will be sustainable further down the track. I am sure industry will be successful but our specific involvement in R&D is questionable. We can't really justify a commercial business if we are only getting 1 or 2 samples a week, we don't have enough volume in that area to continue to maintain technique and personnel requirements. If industry approached us and pooled resources to do this testing it would give us surety that it may be a viable thing. A similar thing was done for the Agricultural Lime Producers." 2

Inconsistencies in the availability of different honey was also outlined as a challenge for stakeholders, this was mainly around Jarrah honey as it only flowers once every two years which limits supply. The challenge is that packers promote the one type of honey and invest time and money into finding a market, only to lose it when they can't supply the product. Other honey associated issues raised include there are too many honeys in a reasonably small category and lots of suppliers are competing against each other which drives down prices of WA honey. While that is good for retailers it is not what industry needs or wants and therefore it was mentioned that they need to start putting value back into the industry.

"The biggest issue is the inconsistency of honey flows; if we market one particular floral type of honey and then find markets for it and sell it for the next 3 years moving ahead and invest time and money and effort, and then over the next 4 years we don't get that honey. It was a waste of time and we lose the momentum and lose the export market. We need to be mindful of what we are trying to market and shouldn't pigeon hole the market into one particular honey type; just market Australian honey. We could say active Australian honey, there are many types, we need to look at active honey as a whole rather than one honey type for continuity of honey." 4

Another challenge for stakeholders is the price of WA honey, which is too expensive and drives some towards using a blend of imported honey and Australian honey. Supply of WA honey was also outlined as a future challenge as some stakeholders believe it won't fulfil the growing demand, and they will be forced to look elsewhere, and specifically to the east coast for honey in the future.

"WA honey is too expensive; it is the price that drives us towards using a blend of imported and WA honey in our honey Greek yoghurt. With all the price increases at the moment, it would just be another hit, the price is the barrier. We couldn't change it to purely Australian honey because the price is too high, and what we have now is working as it is an award-winning yoghurt and if we did change it, it would change the taste of our product. WA honey can be too expensive and there is not enough in WA. We have a large demand and WA can't fulfil that demand." 10

Lack of industry collaboration was also raised as an issue and the need for more professionalism and unity within the WA honey industry. As a state, WA is removed from the east coast where the majority of Australian beekeepers are located and stakeholders find it challenging that the WA industry is not actively involved in the broader industry. Communication is lacking and stakeholders are unsure of who to talk to in WA, as industry is segmented.

Concern was also raised about a complete lack of reporting and ignoring legislation. This includes adverts on Gumtree for honey from unregistered hives and those that don't meet the food labelling laws along with little or no reporting of AFB in hives. DPIRD is aware that they lack the resources to put on the ground and therefore relies on industry reporting. DPIRD also expressed frustration in that they are the first port of call when an issue arises, however they have no authority on most issues so people are disappointed they can't respond. There is confusion as to what department is responsible for what issue.

"As an agency, we lack resources to put on the ground, as much as we would like communication and engagement we can't always follow up with tangible action and hence we lose beekeepers again because they see us as not relevant. It is important for DPIRD and industry to get beekeepers to better understand what we do and don't do; there is expectation they can call on government and they will fix it. We get so many inquiries to water down an issue that we have no authority on. There is confusion with the DBCA, chemical impact, adulteration of honey, labelling of honey etc. We even get calls to cancel beekeeper registration status, when that is the Brands Office. We are regulation and biosecurity and have nothing to do with food, unless it breaches import conditions. We are the first port of call once a beekeeper has an issue and they are often disappointed we can't respond to them in the way they like." 6

Fraudulent activity in export markets is another challenge for the industry. As stated by a stakeholder, a supplier forged reports on the label of their honey in the Middle East and stated a TA level higher than 35 (the current maximum) to make themselves look better than another supplier. While industry was notified, apparently the issue wasn't pursued. It was mentioned that if industry has a standard, then people must comply and there should be sanctions or penalties if they don't.

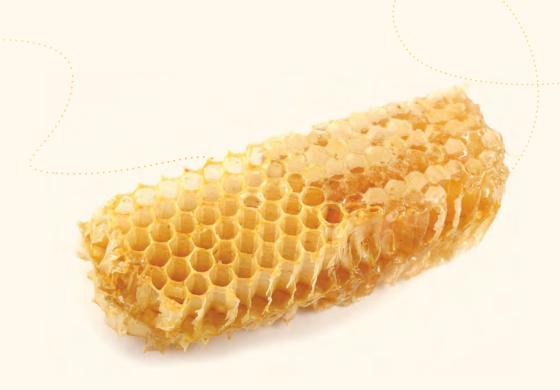
Other challenges from a researcher's perspective is that WA research is hard to sell, as it is so focused and WA only produces a smaller proportion of honey in comparison to the east coast where most research takes place as that is where the majority of commercial beekeepers are located.

The top five most challenging issues identified by beekeeper respondents in the first phase of the industry consultation included biosecurity; development of export markets; resource access and/or management; competition from imported honey; and adulterated honey. Stakeholder respondents were also questioned on these issues and shared similar concerns.

Imported honey is viewed as a big challenge for industry as it provides competition for local honey; is available at a cheaper price; is a biosecurity risk; and as an inferior product and damages the market in the long term. There is recognition that it is hard to stop imports and install trade barriers, as someone will always want a cheaper honey. Concern was also raised about New Zealand honey imports and lack of testing due to an import agreement.

"Imported honey is a risk to our industry and is a touchy subject. I don't believe we should stop free trade with the rest of the world because if someone wants to buy honey at \$2 and someone else can afford it at \$5, we don't want to mark down Australian honey for \$2. There is always a place for cheaper product, and that is part of the reason industry should expand exports and work on it harder. There will always be honey available for the Australian consumer at whatever prices. Educate consumers that Australian honey is good and that they should buy Australian product. It is about promotion of clean and green Australian honey." 4

Biosecurity is always a concern as it is a strategic advantage that industry can't afford to lose. Currently WA's image is based around being a clean and green state however there is potential for incursions. There is concern around the increasing number of hobbyist beekeepers who may not be across biosecurity issues and imported honey which also poses a risk along with the arrival of used equipment and queen bees. DPIRD is aware that they lack the resources on the ground and therefore relies on industry reporting.





"Biosecurity and potential incursion is a massive concern for our image and potential future even the way we keep bees, we are complacent and the whole of industry would have to adapt greatly should we get those diseases like varroa. Industry needs to be aware of breaches, concerns about products on the shelf, importing queens or used equipment – they need to report and DPIRD will investigate reports to make sure they have met import conditions, which are set up to manage biosecurity threats. We do get lots of reports and we investigate it but with more resources we could do more. There has been a massive expansion with postal items which is sometimes picked up but we suspect a lot more products that are not meeting import requirements are coming in i.e. beeswax, queen bees, packaged honey, pollen. In the last month we have had 10-12 investigations. The real risk is with something arriving on purpose or inadvertently – it is always a struggle to buy queens in WA and amateurs will get them posted over from the east coast as it is cheaper."6

Development of the export market is proving hard for broader industry and as mentioned by one stakeholder there is a lack of support for smaller businesses to accelerate and they are forced to take the risk and spend their own money, yet given the right support they could unlock more markets. While there is huge opportunity to target the export market and some funding assistance may help open the door, it was mentioned that if the branding of the products is lacking and a niche product can't be demonstrated, you won't be able to break into the market.

Adulterated honey is also a challenge for industry and as mentioned by a packer, you can buy honey now that isn't honey but no one will risk their businesses to do so. There are checks and balances in place for imported honey where regular testing is conducted to make sure the label is correct. Technology developed by the CRC and ChemCentre is also helping industry to address the issue through the WA honey library.

Opportunities

Stakeholders believe there are a number of opportunities that can help address some of the issues industry is currently facing. The main opportunities identified include pollination of horticultural crops; marketing of medicinal honey and WA honey; collaboration with stakeholders and the development of total activity (TA) industry standards. Others include branding of product based around our biosecurity status of being clean and green; promotion of individual floral species of honey; export market development and further research.

Marketing of WA honey is a big opportunity in terms of the development of an industry led marketing campaign to educate consumers and promote WA honey and its medicinal value, health benefits and its clean and green environment. It was mentioned that WA honey could be promoted as a premium product without a specific tag or alignment with a particular floral species but focus more on active Australia or Western Australian honey. WA honey also has an advantage as a natural product that doesn't need to be heat treated.

Unfortunately given the success of the New Zealand campaign for Manuka honey and lack of marketing within Australia or WA, consumers are not aware of the properties or the uniqueness of Australian or Western Australian honey. Therefore, there is a huge opportunity for the development of a national campaign that will benefit all states and / or a more specific Western Australian campaign to educate consumers, increase awareness and promote the benefits of honey.

"Currently there is no marketing program for Australian honey as there is no marketing levy for the honey bee industry and AHBIC don't do anything. Consumers aren't aware of the uniqueness and special properties of Australian honey – they only know supermarket honey versus manuka. Invest in marketing through advertising, ambassadors and industry promoting Australian honey and the value and why it is important to buy Australian honey. The issue is overseas honey is flooding the market and causes the price to drop. The industry as a whole should be promoting themselves and they need to work closely with AHBIC."9

A marketing campaign could potentially lead to an increase in sales and interest in WA honey in the domestic market, intrastate and the export market, and it would raise awareness of local honey as opposed to cheaper imported honey. Stakeholders also stand to benefit from a marketing campaign.

Marketing ideas include advertising, ambassadors, branding, instore promotions etc. which can all help to promote the value of honey along with why it is important to buy WA honey and the story of honey. While a marketing campaign will cost industry, it is believed that the returns will far outweigh that. And while it is hard to develop branding when industry is limited by cash, one stakeholder said there is lots of opportunity for industry to position themselves and build off other efforts.

Australian Honey Ventures has recently invested a lot of money into developing their marketing strategy and branding in their endeavour to be the most successful in Australia. They believe industry, given its lack of resources, could work with them to position themselves as 'world's best honey' and communicate and support what AHV are doing instead of reinventing the wheel.

"BICWA need to get into branding brand identity, narrative etc. Considering they don't have the resources realistically where can they get it? Australian Honey Ventures is doing it well and we are cashed up, we have contracts, celebrities and are leading the way. It is about picking up the phone, saying we love what you are doing, how can we support what you are doing and piggyback off you. If industry had \$100,000, how can they leverage what AHV has done. Why reinvent the wheel when it has already been done and successfully? There is a lot of bitterness in the industry and people are not happy with what we have done." 14

Branding based on the biosecurity status of WA honey is also viewed as an opportunity to build a strong brand aligned to the quality of the product in terms of being clean, green, ethical, lack of use of chemicals balanced with the environment and floral species. It provides a strategic advantage for WA in comparison to other countries and an opportunity to build up the brand and the story as part of a marketing campaign and to target export markets.

Opportunities were identified in export markets for honey and honey bee products. Target markets include Japan, China, the Middle East, India and Asia. While there may be opportunities in South Korea, industry would need to lobby government to advocate on their behalf to remove the high import tariff as it makes it impossible to sell product and compete with the United States which has zero tariffs. Unfortunately, government signed a free trade agreement and didn't negotiate anything with honey. Other opportunities for industry to target the export market include government support through involvement in promotional trade events, conferences, conversations, networks and funding grants from departments such as Austrade and DPIRD.

"I strongly believe export can be huge because we are so isolated and the most bio secure area in the world; biosecurity is paramount. Anything that has WA honey in it will be sought after by the rest of the world, whichever form it comes in; beverage, honey nut bar or straight honey - WA has proven to the world it is clean, green and has good products. The Asian market is huge they regard honey as liquid gold." 7

While there is recognition that it is hard to stop imported honey and install trade barriers, as someone will always want a cheaper honey, stakeholders believe it is about consumer education and awareness to discourage them from purchasing imported honey. It all comes back to a marketing campaign that will help promote what is a good honey and why they should purchase WA honey as opposed to imported honey. It was also mentioned that imported honey needs to be labelled appropriately in terms of food standards, even if it is blended with Australian honey as it still not really an Australian product. There needs to be accountability and credibility on where honey is coming from.

"Imported honey is shocking – we are about to attack this issue. There is an opportunity for it to be fully exploited through a marketing campaign that highlights the issues with imported honey. Highlighting that it isn't good as it lowers prices for beekeepers as consumers are confused which one is the good honey. We can't stop it, but we can stop the consumer from buying imported honey through consumer education and awareness. People start wondering what is in the honey - can I trust this? Marketing should be around which brands can we be friends with this screams opportunity." 14

Education of consumers on imported honey and adulterated honey will increase consumers' awareness of their purchasing decisions and their ability to trust Australian or WA honey. The traceability technology developed by the CRC and ChemCentre is helping industry to address the issue through the WA honey library, which didn't previously exist. However there needs to be widespread adoption of the technology that can prove the purity of honey, the type and provenance.

More collaboration with stakeholders provides another opportunity for industry through communication, provision of information, promotional support, and in lobbying government. Many stakeholders don't have time to keep across the WA honey, bee and pollination industry issues, as they are focused on their businesses however there is an opportunity for industry to reach out and develop relationships and assist with promotion and education of consumers and the availability of products. While the price of WA honey may be a challenge for a stakeholder like Mundella which has resulted in them using a blend of Australian honey and imported honey for their award-winning Greek Honey Yoghurt, they said they are open to collaborating with industry in trials.

"There is always competition out there, you need to market the product for people to value it, you need to sell the benefits of the product. We will always buy it when available and when we can buy, we will carry WA honey. We run that at a lower margin than other products. We want to push it as we are a WA company. I am not really across what is happening in the industry as I don't have time to look into it and be across how it works and why it works this way. It would be good for industry to liaise with stakeholders and educate us on what is available, the pricing etc. and build a relationship with us as it also helps us step towards educating consumers as well and also help with some point-of-sale promotional information."3

Industry could collaborate with stakeholders to lobby government and politicians to get behind the industry and provide examples that it will quadruple the GDP of the WA honey industry. As a stakeholder said, it is about showing government why they should support the industry like the New Zealand government gets behind Manuka honey.

Opportunity also exists in pollination with the massive growth in the avocado industry. It is believed there will be a need for more beekeepers and bees to meet the demand in pollination in the future. To address this opportunity, industry can investigate other applicable horticultural crops; assist in promotion of the value of bees for pollination with an increase in yields; and work with Hort Innovation to access relevant research and to put together a value proposition document. There is also potential for the peak industry body to liaise with producers and establish a pollination hub and set up rules, regulations and contracts.

"Beekeepers are missing out. Almonds, avocado etc. are going in the ground hand over fist and industry needs to get on that train - what we need to do is understand how to do that and start acting like businesses. I feel we are 30 years behind beef production where it is business versus lifestyle. I think we are at a pivotal time in our industry where we need to get better, bring bees out from the field and into feedlots like the beef industry and understand what they need to eat like beef and manipulate systems to get onto that. Once industry starts acting like a business, businesses will want to invest in honey and bee businesses. We need more people and more beekeepers – 1800 beekeepers in WA is not enough. Hives used for pollination currently across Australia is about 285,000, in 5 years' time it will require 325,000 – it reads like a minimal increase but 50,000 hives is a lot of hives and that's about 100 new beekeepers - where will they come from? It is not treated like a business at the moment." 13

In terms of research, there is opportunity for greater collaboration with Agrifutures through reviewing their research and strategy plans and the yet to be published Levy Industries Research Compendium which summaries all research funded by the honey levy (released in June) to understand what research has already been undertaken. Hort Innovation can also assist with research based around the utilisation of bees as pollinators for horticultural crops. Other research opportunities include accessing funding in the medical space to investigate the use of bee venom in breast cancer research, and for honey and its medicinal benefits for the treatment of IBS or diseases like Parkinson's. While WA is focused on the TA rating, New Zealand has identified the active ingredient in Manuka; research is required to determine what the active component is in WA honey which can help further with marketing and research.

"There is work being funded in many areas by Agrifutures; a lot of project work with Small Hive Beetle and they recently did a report about resources and access to public lands. What industry needs to do is take this research and drive it with government. We are non-political but it is up to industry to use that research/information in their conversations with government. Government will take industry more seriously if they are a more cohesive industry to deal with." 9

To address industry concerns about the testing of the TA in honey, it is believed that standardised testing would help to get consistency across the board and use of a unified testing system across industry and adoption of sanctions or penalties if they don't comply. It was raised that there is also opportunity for further price premiums if the TA is higher and beyond 35 – therefore they need to create a rating system for honeys with huge percentages as it could be very useful in modern medicine.

"We have honeys of TA 35 plus but what about a TA of 60 – imagine the money that could be made and how useful that would be in modern medicine. There is a huge opportunity. We need to create our own rating system to promote honeys with huge percentages because international testing standards are limited to TA35 plus. We could be getting \$1000 jar if we had the ability to market at 61% level. There is no other rating system, there is the UMF for Manuka. But again, a rating system doesn't mean much, unless you market it in other countries." 14

WA's higher medicinal honeys provide premium pricing opportunities for beekeepers, one packer has already adopted a pricing model that pays beekeepers based on the TA of the honey and they believe they are able to pay more for honey than other packers, and that they are lifting the overall value of the WA honey and the industry. While concern was also expressed about supply of honey to meet the growing demand for products, stakeholders believe that WA will require either more beekeepers and honey, or for existing beekeepers to scale up to meet demand in the future.

With resource access and/ or resource management, it is about BICWA as the peak industry body engaging with DBCA in terms of advocacy and lobbying as stakeholders believe that the resource will always be under pressure especially with the huge impact of fires and logging. Other opportunities that were raised by stakeholders include the sharing of IP from CRC; and the opportunity to provide exclusive products to smaller retailers that will attract a premium price in comparison to competing with cheaper honey in bigger supermarkets and devaluing the product.

A word of advice from a stakeholder in preparing the strategic plan is to turn it into a funding prospectus for investors and to include industry achievements/ success stories, and information on the industry to get significant buy-in. It could also be utilised as a lobbying document to take to government and will guide industry and also give them something to aspire to.

"The beekeeping industry is a victim of poor data keeping. Investors want data – so we want to start capturing our own data now. Someone needs to start developing data sets." 14

Production figures for the WA honey and bee industry are not currently collected via a central mechanism, and therefore little data is available and what is available is quite often conflicting. Stakeholder respondents believe that production figures should be captured in a number of ways either through packers; quality assurance programs; industry collection of data; or export data.

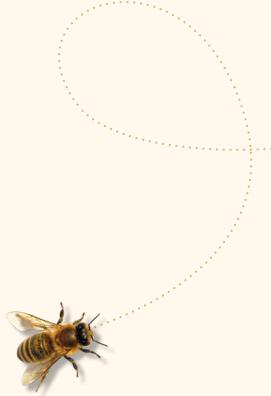
Packers are thought to be one of the most effective ways to access data as they capture their sales on the types of honey and volume along with their exports and imports. One packer has developed an App for their beekeeper suppliers, and they are focused on making their data more transparent, as they recognise that it is something that is missing within the industry.

Quality Assurance programs also capture production data to some degree through programs like BQUAL for commercials and BTrace for smaller beekeepers but there could be some issues with data sharing and the data is limited, as not all beekeepers are a part of a QA program. Data could also be collected through current systems like the Agrifutures Size and Scope report, or the purchase of data through companies like Nielson. The national honey levy (4.6c/kg) provides another option, but it is limited to those that produce over 1500kg and doesn't capture the local market.

Other ideas include the DBCA App that has been developed which could capture production data but once again is limited to only those beekeepers who use DBCA apiary sites, and the hive registration process, although not all hives are registered. Data could also be collected through the APC FFS. There is an opportunity for industry to approach DPIRD to determine if this is an option and if they can share summarised data, rather than individual data.

"The only way is you can survey beekeepers but not everyone will answer it, the larger it is the more accurate it will be - and then you make assumptions into that. There are so many variables in whatever you ask - like does a beekeeper shift around? A self reporting anonymous survey would be good with the different groups of beekeepers (in terms of hives) and then determine what the yearly production is - that will give you a basic per hive production across the state. You also have registrations and if you know that only 20% of beekeepers reply then you can make the assumption on how much honey but it will never be correct. You need to get buy-in from beekeepers and let them know why you need it to be correct and sell the benefits to them otherwise what is the point in them telling the truth." 4

An opportunity for industry is through the development of a funded project to collate production data and a mechanism to collect it. It could create a simple data capture system that could be run by BICWA that allows for self-reporting and which beekeepers complete voluntarily and anonymously at the end of the year. Accuracy and honesty would be an issue, along with the variables within industry.



Areas to consider in the next WA honey, bee and pollination industry strategic plan

Based on the contributions of various industry representatives on their views about the WA honey, bee and pollination industry, respondents believe that the following areas will assist the industry to further improve and realign their strategic plan:

Industry Group

- Ensure there is one united voice to represent and advocate on behalf of industry.
- Collaborate with stakeholders.
- Engage with government to access further funding for industry growth and development.
- Develop a close working relationship with AHBIC and other state-based industry groups/ associations.
- Professionalise the industry.
- Review the BICWA board structure in terms of human capital with the right skill set to move forward strategically and to grow the industry.
- Investigate indigenous involvement on the BICWA board.
- Further research the Bee Industry Executive Officer position:
 - Develop the job description, protocols and
 - Apply for funding for employment of an EO and for industry activities.
 - Ensure the position is sustainable and the pay is attractive to retain an employee.
 - Determine the benefits of an EO and sell it to industry - beekeepers, stakeholders, and government.
- Employ a Bee Industry Executive Officer to oversee the industries activities and advocate on its behalf
 - Establish relationships with stakeholders.
 - · Apply for funding grants.
 - Provide a filter for industry and beekeepers on issues, and the relevant person or department to speak to.
- Finalise strategic plan.
- Ensure the Board/ Committee is accountable to performance metrics.
- Develop an industry prospectus to attract investment and to advocate to government.
- Ensure commercial beekeepers and hobbyist beekeepers work together to protect the industry.

- Promote the different government departments and their roles and responsibilities within the industry to assist beekeepers to better understand who to contact when an issue arises.
- Nominate WA representatives to participate in the Agrifutures funded 'Levied Industry Capacity Building Program'.
- Follow up group toolbox information from Agrifutures.
- Investigate options to raise industry funds as identified by stakeholders:
 - An increase in the FFS via the APC and the opportunity to open up the functions of APC to include export and industry marketing.
 - Utilise industry funds for leverage.
 - Seek government support for diversification away from the mining industry.
 - Investigate in-kind funding opportunities through provision of an office and administrative duties etc.
 - Packers' contribution.
 - Tariff on imported honey.
 - Industry run co-operative to package and market honey.
 - Annual membership fee for BICWA for beekeepers and broader industry with vested interests.
 - Collaborate with Australian Honey Ventures to access potential industry funds.
 - Royalty on honey sold.
 - Sponsorship/ Fundraising/ Donations.
 - Capitalise on IP and research from CRC activities.
- Ensure industry funding is sustainable.

Data Collection

- Investigate the various options suggested by stakeholders and determine the best mechanism to collect production data:
 - Export / import data.
 - Quality Assurance programs BQUAL and BTRACE
 - · Packers.
 - Australian Honey Ventures through their App and transparent involvement in the industry.
 - Agrifutures Scope and Size of Industry Report.
 - DBCA App.
 - National Honey Levy.
 - Consultant.
- Investigate the development of an industry led project that can capture industry data that beekeepers can self-report anonymously and seek funding.

- Determine what data industry would like to collect.
- Liaise with DPIRD to determine if production data could be collected through the hive registration or the APC FFS process, and if they can share summarised data rather than individual data.
- Encourage beekeepers to honestly report production data and promote the benefits to industry (i.e. benchmarking opportunities etc.).
- Allow for beekeepers to anonymously report production data.

Marketing and Promotion

- Develop an industry led marketing campaign that focuses on the unique clean and green image of WA's natural honey to target local, intrastate and export markets.
- Promotion of the health benefits and medicinal value in terms of antimicrobial and antibacterial properties of honey to help increase the price of honey.
- Raise awareness as to the unique status of WA honey through the story of honey and provenance.
- Market honey from all floral sources as 'active Australian or Western Australia honey' to overcome the risk of losing a market based on one floral source.
- Educate consumers and increase their awareness around Australian honey verses imported honey and the importance in supporting local producers and why Australian honey is better?
- Liaise with AHBIC to develop a national marketing campaign, that could be run across every state and funded nationally.
- Engage with Australian Honey Ventures to access potential industry funds and to capitalise on their marketing campaign and market development.

- Build a strong brand aligned to the quality of WA honey and other by-products based on the clean and green environment that is sustainable and ethically produced, and the story around that as part of the overall marketing campaign.
- Ensure WA honey is competitively priced and that there are different tiers available within the market to cater for consumers.
- Investigate opportunities to position the WA honey and honey bee industry as the 'world's best' and to capitalise on other marketing campaigns.
- Collaborate with Australian Honey Ventures to piggyback off their marketing campaign and support them in their endeavours.
- Review successful marketing campaigns such as the New Zealand Manuka honey campaign and the Australian lamb industry.
- Continue to progress the CRC West Australian honey campaign work that researched market access and consumers in five different countries.

Markets

- Research export market opportunities into Asia, Middle East, Japan, India and Great Britain.
- Lobby government to include the honey and bee industry in free trade agreement talks.
- Advocate to government to renegotiate the FTA with South Korea to remove the import tariff and open up the market.
- Investigate the development of an industry cooperative to allow beekeepers to collaborate and target niche, domestic or export markets.
- Collaborate with government departments to target export markets and to promote WA honey.
- Liaise with Austrade and DPIRD to determine funding opportunities for export market development.
- Establish branding of Australian or WA honey prior to targeting export market to ensure success.

- Push for government support and conversations around the export market and involvement in trade fairs, conferences, or networking events to promote industry and products.
- Lobby government to review the current import agreement with New Zealand to ensure the industry is protected from any potential biosecurity incursion.
- Push for more stringent labelling requirements around imported honey and honey bee products to ensure accountability and credibility for where it is coming from.
- Request more testing for imported honey and honey bee products.

Resource access / management

- Continue to engage with DBCA through lobbying and advocacy.
- Biosecurity
- Continue to ensure that industry values and maintains its strategic advantage with its biosecurity status, and clean and green status.
- Ensure commercial beekeepers also work with hobbyist beekeepers to protect the industry.
- Encourage industry reporting for unregistered hives, AFB in hives and for failure to meet food labelling laws to protect industry and its biosecurity status.
- Lobby government for additional funds to protect industry and boost the resources of DPIRD and to access more funds on a national level from AHBIC and Plant Health Australia to cover the vast state of Western Australia from potential incursions and biosecurity risks.
- Encourage industry to report any biosecurity breeches or issues of concern – product on shelf, imported queens via the post or used equipment.

Pollination

- Educate and raise awareness of the benefit of bees for pollination, within the horticultural industry and the associated yield benefits.
- Investigate the opportunity for BICWA (or the peak body) to oversee a pollination hub that connects growers with beekeepers and establishes rules, regulations and contracts.
- Follow up any applicable research that shows the benefit of honey bees in pollinating horticultural crops and/or collate data to back up the claim.
- Liaise with industry researchers Hort Innovation to put a value proposition brochure together to show value of bees for pollination that also has a national focus.

- Investigate opportunities within other horticultural crops aside from avocadoes.
- Further investigate the opportunity for beekeepers – demand verses supply – will industry be able to meet demand? Or will more hives be required?
- Undertake further research to determine what pollinating bees require in terms of nutrition to be more effective



Research and Development

- Engage and collaborate with industry and researchers.
- Continue to develop the CRC research into the medicinal value and properties of the different species of honey.
- Identify the exact properties of WA honey to discover the active component to assist in determining the activity, price and market (similar to Manuka).
- Ensure widespread adoption of the technology developed by the CRC and ChemCentre and for the industry database to be maintained and expanded, to overcome adulteration issues and test for purity and provenance of honey.
- Ensure WA research is applicable to beekeepers in other states to access national funding opportunities.
- Investigate funding opportunities for further research in the medical space and cosmetic industry for honey and honey bee by-products:
 - bee venom and its demonstrated benefits in treating breast cancer.
 - honey to treat diseases like Parkinson's and IBS.
- Undertake further research to determine what pollinating bees require in terms of nutrition to be more effective.
- Follow up Agrifutures research on small hive beetle and report on resources and access to public land, and drive the issues through conversations with government.

- Follow up Agrifutures 'Levy Industries Research Compendium' (due to be released in June) that summaries all research funded by the honey levy to reflect on the research that has already been done, when looking at future projects. Determine what is different to what has been done.
- Review research and strategy plans for Agrifutures and Hort Innovation to determine applicable research opportunities.
- Liaise with industry researchers Hort Innovation to put a value proposition brochure together to show value of bees for pollination that also has a national focus.
- TA of honey:
 - Establish/ develop a standardised industry standard for TA testing to ensure the all labelling is consistent across the industry.
 - Investigate mechanisms for penalties or sanctions to be applied should beekeepers/ suppliers/ packers not comply with the industry standards for reporting of TA.
 - Investigate the opportunity to promote a TA of in excess of 35 through further research and laboratory-based testing.
 - Once finalised, promote the TA rating system in export markets to raise awareness of the medicinal value of WA honey.

Collaboration with stakeholders

- Build alliances and partnerships with industry stakeholders.
- Connect/ engage with other state-based honey and bee industry groups and AHBIC, the national body.
- Liaise with retailers who stock WA products to offer marketing and promotion support through instore promotional support material to educate consumers and raise awareness.
- Communicate with stakeholders and develop a closer working relationship through the exchange of information.
- Educate stakeholders on what is available, pricing and build a relationship that will assist them to educate consumers
- Collaborate with stakeholders to help promote the industry to government and the need for government to get behind the industry and support it.
- Engage with Australian Honey Ventures to access potential industry funds and to capitalise on their marketing campaign and market development.
- Look for opportunities to align industry with companies who want to have a positive social impact to access funds.
- Investigate opportunities to collaborate with stakeholders to undertake trials with WA product.
- Engage with DPIRD to determine if production data can be captured through the hive registration process or APC FFS.
- Assist DPIRD in reporting biosecurity breaches and supporting the agency to oversee biosecurity and manage incursions.

- Liaise with the DPIRD for more enforcement around unregistered hives.
- Government:
 - Advocate to government on the importance of the industry and why they should support it through funding and additional resources.
 - Lobby government for additional funds to protect industry and boost the resources of DPIRD and to access more funds on a national level from AHBIC and Plant Health Australia to cover the vast state of Western Australia from potential incursions and biosecurity risks.
 - Lobby government to include the honey and bee industry in free trade agreement talks.
 - Advocate to government to renegotiate the FTA with South Korea to remove the import tariff and open up the market.
 - Collaborate with government departments to target export markets and to promote WA honey.
 - Liaise with Austrade and DPIRD to determine funding opportunities for export market development.
 - Push for government support and conversations around the export market and involvement in trade fairs, conferences, or networking events to promote industry and products.
 - Lobby government to review the current import agreement with New Zealand to ensure the industry is protected from any potential biosecurity incursion.

Other

- Investigate opportunities to supply smaller retailers with exclusive products that have creative packaging and can obtain a higher price. It is about selling product on quality not quantity.
- Investigate the development of an industry co-operative to allow beekeepers to collaborate and target niche, domestic or export markets.
- Liaise with the ChemCentre to address their future sustainability within the industry and look to establish specific testing times for honey and seek ways to make testing more affordable and ensure their future viability.

Stakeholders Questionnaire

1. How would you classify your role in the honey and bee industry?

Industry support	Packer	Wholesale	Retail	Research	Other

- 2. How would you like to see the management of Western Australian honey industry improved? (i.e. structure)
- 3. Currently the industry bodies (APC/BICWA) are managed by industry volunteers with limited time, and therefore to better manage the industry into the future with benefits all those involved:

Yes	No

- a. Would you support the employment of a 'Bee Industry Executive Officer'?
- b. Do you have other ideas on how to fund the industry development?
- 4. What do you believe are the two (2) main opportunities for WA bee, honey and pollination industry in the next five years?
- 5. What is the biggest issue/ challenge for you and your company/ organisation with regards to the WA honey and bee industry?
- 6. Interviews with WA Beekeepers have identified the following as the key barriers for the WA bee, honey and pollination industry in the next five years?

Can you comment on 2 of the above as you think will impact on the industry, and do you have any suggestions?

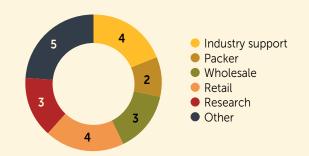
- a. Biosecurity pests or diseases risk
- b. Development of export market
- c. Resource access and/or resource management
- d. Competition from imported honey and other by products
- e. Adulterated honey
- 7. Reporting of production figures currently there is little data available, how can industry capture this information?
- 8. Do you have any other feedback you would like to contribute to build the industry's strategic plan?

Note: Each stakeholder interviewed has been identified with a number and where appropriate the number is aligned to their respective comments. In this way, readers can either follow the overall theme or an individual conversation.

Stakeholders Responses

Q1. How would you classify your role in the honey and bee industry?

Fourteen stakeholders were canvassed for their views and input on the WA honey, bee and pollination industry. They included industry support groups, packers, wholesalers, retailers, researchers and other sectors which included an agent, regulator, manufacturers, and a distributor.



STAKEHOLDER INTERVIEWS NO:14

Comments

Wholesaler

• Distributor/ Wholesale. Pemco purchases products and distributes to supermarkets – Farmer Jacks, Metcash, IGA and little niche stores. We do have our own brand 'Raw Food Factory' and have our own honey - WA honey from Muchea, Western Australian (Fewster's honey) and then organic raw honey. We have all sorts Redgum, Jarrah, Creamed Honey and honeycomb in very small quantities (not a big mover). We purchase it packaged and then labelled Raw Food Factory. We have a whole range of pails, squeegee bottles, glass jars in various sizes. Bee Pollen 500/250 grams and our own brand in bulk 5 – 300kg bee pollen, honeycomb – buy in 450g sell about 50 x year. The most popular is 500g raw honey – blend and organic. The only other brands we stock is creamed organic, raw honey which is a blend and jarrah. It is all organic honey as we are an organic distributer, and we use certified suppliers with QA. (11)

Research

- R & D Manager, Pollination Investments help facilitate research priorities from industry. (9)
- Research we won't do research we commission it with levy funds – the National Honey Levy of 4.6 cents/kg has 1.5 cents for R&D. Anyone who produces over 1500kg within a year is eligible to pay the levy. At first point of sale beekeepers pay it, some packers pay it on behalf of beekeepers. The levy funds are very variable from \$150,000 in a drought year through to \$325,000 in a good year. Honey is a funny one compared to every other levy as you can't store in a shed and leave it for an extended time. (13)

Retail

- Spudshed we have a few varieties of WA honey, Australia and blended honey and imported. (3)
- Retailer I work for a supermarket, we buy from different wholesalers and distributors for IGA stores. We keep a plethora of different varieties and our own brand 'Good Grocer' which is Fewster's honey. We also deal with Capilano and small individual postcode honey. We stock honeycomb, honey, pollen products in small sachets etc. We try and support the honey industry. It is quite protected in WA because of the diseases and WA honey doesn't have to be treated. Honey is floral blended, raw - 80% of it is WA honey, and some is from the eastern states, no imported honey that I am aware of. (12)

Packer

- Packer and Industry Support. (4)
- Packer/ Wholesaler AHV is a 100% Australian privately owned aggregator of Australian honey with impressive honey inventory levels capable of supplying packaged honey products to export markets. We have operations extending along the value chain from receival and storage, marketing, packaging and sale into the export and domestic markets. Collaborative relationships with Beekeepers and distributors, and product innovation in the medicinal, endurance racing and well-being markets, has us on a trajectory of brokering at least one third of Australia's total commercial honey production by 2027. (14)

Q1 Cont.

Other

- We also do some agency work with contract packing, not so much packing but acting as an agent and matching international buyers with product they are looking for. Platforms – Honey on Line, bulk wholesale and boutique – primary e-commerce platforms 80% WA - honey, propolis, royal jelly, skin care and manuka honey from New Zealand. (2)
- Industry and regulation DPIRD has 3 FTE bee staff in biosecurity for the state, running national programs as well and some externally funded 0.2 FTE nationally. We have obligations to deliver to national program and get funding to deliver that. There is also some focus on bees in the DPIRD trade and development section with international enquiry and then indirectly labs
- and others. We engage with industry, and the brands officer manages the collection of fees and brand registrations. We do a proportion of inspections and do early investigations, then have a different compliance arm who we hand over the inspections to. (6)
- Manufacturer/ retail Bee Firm is a beverage company; our baseline ingredient is honey and we use specific honey Redgum – 8% volume per product. It is classed as a health product and we use honey as sweetener and have no processed sugar, no chemical additive and we also use a lot of raw indigenous ingredients. (7)
- Other customer to Hive and Wellness, Manufacturing. (9)





Q2. How would you like to see the management of Western Australian honey industry improved?

Industry stakeholders would like to see the management of the WA bee, honey and pollination industry improved through consolidation of the representative groups and centralisation of activities and management. Currently it is believed the industry is fragmented and segmented however it is was mentioned that it is heading in the right direction with the restructure of BICWA to become the peak industry body. It was raised that it is important to have a key body working on behalf of industry and supporting industry in producing honey and that it represents the interests of both commercial and hobbyist beekeepers in order to protect the industry from biosecurity risks. One stakeholder did mention that the industry fragmentation is similar in other states with the different factions, and apparently WA is a long way ahead of others with the formation of BICWA.

Management could also be improved through the employment of a dedicated Executive Officer to oversee the industries activities and to help professionalise the industry. It was mentioned by a stakeholder that the WA industry needs to step away from being a cottage industry and become more business focussed in order to gain credibility. Concern was raised that the BICWA board/ committee doesn't have the right human capital to set itself up for success; they have to attract and retain the right talent based on their skill set. Hence there is opportunity to exploit people for their professional capacity and enable them to grow

their resume through being a board member. It is about getting the structure right, developing a strategy that has performance metrics built in and attracting the right people to help grow and progress the WA honey and bee industry. It was also mentioned that involvement of indigenous traditional owners on the board would help work with native title etc. on beekeeping sites. Another idea raised was the development of a co-operative to allow beekeepers to market honey as a collective.

Stakeholders also raised the importance of industry and government engagement, and the need for a higher level of engagement. With a peak industry body, it will allow important issues to be streamlined and communicated as once voice, without conflicting views - which has been the case in the past. It was mentioned that industry needs to overcome the great divide and work more closely with the national body in AHBIC and play the national game to liaise with other state-based industry associations and work together for the whole of the industry. There is confusion amongst some stakeholders on who to talk to within the industry, as it is so fragmented.

DPIRD recognises that they lack the resources to fully engage with industry and to fully oversee compliance and therefore it was mentioned that industry has to be more active in reporting diseases and pests. It is also the responsibility of the industry to lobby government for more resources and express concern about practices, as it was outlined by a stakeholder that politically it is about motivating more investment back into bees.

Q2 Cont.

Centralisation / Consolidation

- They are heading on the right path with centralisation, at the moment it is very splintered for a small industry. BICWA is moving towards a more consolidated position and that is a real positive and we need to see that across the industry approach also through to marketing and sales and promotion; a more consolidated approach. One peak body where industry works together. I believe the main factor should be biosecurity – no matter if you are an amateur or professional biosecurity is the key and there is strategic advantage in industry focusing on that if they have 1 or 500 hives, biosecurity is the key point. BICWA should represent amateurs and professionals. They are on the right path, it takes time and money to put into place, and they are moving towards a CEO and business plan. I do see a role for other groups still that they can continue to look after their specific interests but feed into BICWA and operate and support BICWA. (1)
- It is a hard one, consolidation of groups would be an advantage. It is difficult for me to say as I am sure there are important reasons why there are separate groups as they advocate different things and represent different interests i.e. it's different managing flow hives versus commercial beekeepers and people on farm land. I am scared to offer an opinion. Industry is no doubt aware of what they need more to protect the industry. (2)
- It is the same for every state, people need to work together as there are too many factions and too many people have their own self interests at heart. It is tough as no one will put in unless they get benefit from it. WA is a long way ahead with the formation of BICWA, there is nothing better out there. There are always factions that don't agree with what the peak body is saying. BICWA will present one common theme for industry, otherwise you will end up with 20 different ideas and no one knows who to back. It is a very similar situation in other states. Amateurs need to be involved as well. (4)

 It would be good to have a dedicated person / CEO to give guidance and to professionalise the organisation and industry. The ideal structure is for BICWA to be the lead organisation and then have the four sub committees underneath the Board which are Research and Adoption, Finance and Growth. Communication and Development, and Resource and Biosecurity. WAAS is on the sideline and stands alone; an additional subcommittee to represent the amateurs that can report direct to the board. WAFF Bees is about to wind up and WABA will probably dissolve. APC is not within BICWA but on the side, before it was a member but that wasn't right. I see APC as stand-alone and they continue to collect the FFS and BICWA will get service contracts and funding from the APC. The BICWA restructure happened a year ago and is working very well. We would like to see WAAS more engaged -it is hard to get their acceptance to show them the whole of industry is for them not only for commercial beekeepers. The recreational keepers feel threatened by commercial keepers. Biosecurity is everyone's responsibility and therefore we would love to get them more involved but engaging with them is hard. We are trying to show a presence there, engage and invite them but it is hard to break through. (5)

Industry / Government engagement

• There needs to be a higher level of industry engagement with government to improve biosecurity and to enforce biosecurity practice. What BICWA is trying to do in more consolidation is really important, so there are not as many conflicting views or that we are not receiving letters from 5 different groups on 5 different matters. It is streamlining what is important and working out the issues and getting smarter with administration of what is important. We are working very closely with BICWA and we have a good open relationship and can have frank discussions without it turning into letters. (6)

Q2 Cont.

Industry / Government engagement Cont.

- Our engagement with industry links partially to the National Bee biosecurity program where we only have 0.2 FTE to run the national program which is funded nationally. We have another 0.3 – 0.5 FTE doing bee biosecurity engagement work and with that resource we could do more to make beekeepers aware or help train them better. There is not enough time to provide a statewide service or resources to provide a really good engagement program. It encompasses communication, training, doing inspections etc. We do inspections of beekeepers one on one about their practice; compliance apiary inspection is a stick approach and follow up on reports of not meeting legislation, registration or branding or follow up on disease reports. We don't have a FTE allocated to compliance. It fits in both roles amongst everything else so it is not given the attention it needs. Industry reporting is important, and they have obligations to report pests and disease and provide information. Industry can work with organisations such as BICWA to lobby for more resources and express concern about practices within industry. Negative feedback politically is about motivating more investment back into bees. (6)
- The honey bee industry is fragmented. We usually work with the national peak industry body more. The knowledge they are working closely with AHBIC would be helpful; use AHBIC to direct your resources towards the right issues and research and feed in the research ideas. (9)
- In WA, BICWA is really quite advanced but it's segmented over there and we have heard that from government channels in the past too. If they want to be a big voice in beekeepers there has to only be one voice. Also they need to start playing the national game as well and working collectively with eastern states groups to push honey as whole not just WA specific varieties. They should work with NSW, Vic, Qld and AHBIC. WA has great case studies which some other states could benefit from and likewise. There seems to be the great divide so it would be great to see everyone working together more. It is often quiet in WA when they are trying to get research done as it is hard to get WA to think outside the square when it comes to research. WA research is hard to sell as it is so focused and not a big proportion of honey is produced in WA. All I see from the management side is that I am not sure who to talk to and it feels segmented. (13)

Business focus

• It needs to get out of being a cottage industry and start being more business-like. I am not taking away from what people have done but it is about professionalising the industry. They need to get out of the cottage industry though process and unify everything and industry will have a lot more credibility. I would love to see someone do another co-operative that is not tainted (i.e. Capilano imported honey). The standards we need to adhere to should be industry set standards and that's the way it should run. (7)

Other comments

- We mainly deal with the research component, there is no shortage of ideas for research - the bigger challenge is shortage of funding. Finding it is a struggle and also to know how it will work post the closure of the CRC. We may have less of a role after that close, as we are not funded to fund research off our own back. (8)
- There are companies like Wescobee and Capilano who have renamed themselves, and a lot are doing their own thing that would turn to their body to assist them in what they are doing to help them develop their business. So many people make honey and bring it to me to sell instore – and they haven't looked at competitors, they have done very little research. People can easily make honey. To have a key body working on behalf of industry, that is supportive of industry, would be good to help people and assist them in developing and producing honey. It might be a case of people producing honey and getting a cooperative together to market the honey and do the packing on behalf of beekeepers. (12)

Q2 Cont.

Other comments Cont.

 The industry doesn't have the right human capital to set up a board for success. As a group of beekeepers for them to be able to strategically go forward is well and good but if they don't know what they are doing and don't have the right people they need to change the way they look at it. People are happy to volunteer time if there is something in it for them. It doesn't have to be financial, young people with skills in marketing and communication look for opportunity for growth in their resumes that will help progress their careers and there is opportunity to exploit people for their professional capacity. It is about having a vision and in order to get there, you need these people. How to incentivise: you need to think outside the box, we have done it. Achievements come from having the right bums in certain seats, we started off on the smell of an oily rag and have just raised \$3 million. We have a vision and are working towards that. You have got to have the right people and attract and retrain the right talent. You can get a strategy and get the committee to be accountable to performance metrics and determine how to measure it to achieve it. You need to look at who is steering the ship, there needs to be recognition beyond a love and passion for the industry. At the moment the industry is fragmented and laughable. How do they make themselves look attractive: get the structure right first, then the strategy, and the right team with the right skills set and then make it happen. Determine what is BICWA's unique selling point and how they can promote being a part of them to help excel in their careers - they want to attract talent and members and they need marketing strategies to attract the right people. (14)

• Review the BICWA board - you need to look at the skills on the board and how powerful they are. On our board we have an indigenous traditional owner as we recognise Native Title is an issue. In the long term, BICWA and other state bodies will struggle with native title claims over beekeeping sites and having a representative that can be a trusted advisor for the indigenous is valuable. (14)

No comment

- Not really as it is out of my league, we purchase from packers or third party / imported and sell honey. (3)
- I don't deal directly with beekeeper groups so I don't really have any understanding and can't comment. (10)
- I don't have a good understanding of industry to comment, we do all our own marketing etc. in house. (11)



Question 3

Q3. Currently the industry bodies (APC/BICWA) are managed by industry volunteers with limited time, and therefore to better manage the industry into the future with benefits for all those involved:

a) Would you support the employment of a 'Bee Industry **Executive Officer'?**

The majority of stakeholder respondents (72%) support the employment of a Bee Industry Executive Officer. A further 14% were unable to answer based on their lack of awareness of the industry and its structure, and another 14% are on the fence but could be swayed. There was certainly recognition that it is hard for volunteers to run industry groups when they are also focussed on their own commercial beekeeping businesses and are therefore time poor.

It is thought that an Executive Officer will help professionalise the industry and allow better coordination through a more cohesive approach within industry and allow for all the groups to be brought together as one voice that speaks on behalf of beekeepers. A paid employee would be more effective and allow for industry activities to be streamlined, and gueries or issues to be responded to in a timely manner and also provide the ability to access grants and funding. It was mentioned that the person would not have a direct industry bias and would have the interests of the broader industry at heart. With knowledge and experience, the Executive Officer could help take the WA honey and bee industry to the next level.

As raised by stakeholders, it would be beneficial to industry to have a central person to communicate with, and it should ultimately improve the productivity of beekeepers and help increase the volume of honey which would in turn would benefit the broader industry. This would allow the industry to play a bigger role in filtering industry issues / concerns and directing them to the correct department, and it would result in industry being better placed to influence their peers rather than regularly expressing views or concerns.

Stakeholders did guery how the role would be defined and if the Executive Officer would work for beekeepers or the entire industry. Concern was raised about the person's role and control as it was mentioned that unless they had the final say, issues will still go round and round. Concern was raised that the Executive Officer would have to spend time fixing personality clashes within industry if people continued to have their own agendas. Salary was another issue raised, that it won't be attractive enough for people to leave a well-paid position, their job security, entitlements and opportunities to progress their career so it may be necessary to target a junior EO.

According to stakeholders the position will require certain protocols to be put in place, with the ability to make decisions, and requires a salary and package to attract and retain an employee. Industry will need to establish the job role and have tangible projects for the person. A couple of stakeholders said their support for the role depends if they are required to put their hand in their pockets, in which case it would be a no; and also the requirement of a better understanding of what it would mean to stakeholders.

Yes, we would support employment of an **Executive Officer**

- Yes, you need someone to dedicate time to issues that is not distracted by trying to run a commercial business and someone that hasn't got direct industry bias and has the interests of the industry at heart. (1)
- Yes, I would support it. Beekeepers have enough of a hard time running their own business if they want someone commercially focused, they need to pay someone to do it. It would be beneficial to industry and ultimately it should improve production of beekeepers in WA therefore increase the volume of honey will increase and if that does - it will help packers. It depends on how the role is defined, if they are working for the beekeepers as an industry or the whole industry. Would it help us? It would if a we had a central person to talk to, we already have someone in BICWA but they could be another voice saying something different. A paid position if it is warranted might do a better job, rather than a lot of volunteers. (4)
- Yes, someone to run the organisation professionally and streamline everything. At the moment everyone knows someone and they try to help out, but running their businesses is not the same as having someone dedicated to the job. With knowledge and experience, that person will bring industry to the next level. (5)
- Yes, I can see the value of a professional and a level of consistency in dealing with people around context and knowledge who can respond to gueries and concerns in a professional and timely manner. Industry can play a bigger filtering role in terms of what they respond to in regards to industry concerns as opposed to what DPIRD does. Industry will be better placed to influence their peers rather than regularly expressing concerns or views. It would be more credible with beekeepers, and those who have practice knowledge like the Department has for biosecurity and compliance. (6)
- Yes, from the perspective to maintain the directives put in place when dealing with volunteers. When people work for nothing, there is no one to answer to. There needs to be protocols to be followed and that would help professionalise the industry even down to a registration board and also policing. (7)
- Yes, it would be a useful way forward. It would be a focus point for any coordination in industry rather than us deal with a committee approach or multiple individual companies. If there was an EO who could filter out or prioritise ideas that are endorsed by industry it would be more efficient than us shopping around ideas to progress. (8)

- Yes, you need a dedicated person as it is hard to rely on volunteers – they are busy people. A paid employee dedicated to the resource is someone who is invested and will follow through and is a valuable resource. It will also help with a more cohesive approach and help to access certain grants. (9)
- Yes, I would if they have the capacity to pay someone part time to work across the different organisations and to be one true voice for WA absolutely. It is my number one thing; it is not about if they are paid or unpaid – it is more about bringing the different groups together. (13)
- Yes, it is good and well to have positions, but unless this person has absolute control and has the final say on things, it will still go round and round. If people have their own agendas, the EO will end up trying to fix personality clashes in the groups because they will be at the mercy of people on the board /committees. If a paid person is brought in and people are not fully on board, they will still continue to buck the issue. The concept is there but in reality, how do you give them the power to have the final say; industry is fragmented and it is an issue. That person will need strong powers to put their foot down. The pay won't be that good – they need to be able to walk in and sink their teeth into it. They need tangible projects and need to work things out and work out what the EO does. It has to be an exciting role, as no one will want to leave their current job for a position with uncertainty and lower pay. Perhaps it could be a junior EO and someone with skills in the marketing and sales area. Even Austrade have mentioned that industry is a diabolical mess and an embarrassment when they recently tried to get money from them. (14)

Can't answer

- I can't answer, as I am unsure of structure and benefits. (10)
- It is not one I could answer, we don't have much to do directly with industry and are quite self sufficient ourselves. (11)

Depending

- Where does the money come from; if I have to put hand in my pocket, I would say no. If government supports the industry from the point of view of diversification of our economy, then yes. If that is what beekeepers believe is the best thing, I would support it – you wouldn't want to get roped in to fund it. Personally, I think this is a difficult space; where they get pay back on this role. It's great to have someone advocate on the ground issues like native title, but it won't solve the structural issues beekeepers are dealing with. (2)
- It depends on what the role will be, I can't say yes and not understand the position of the person and control they will have over the industry. I would need more information and what it would mean to stakeholders. (3)

b) Do you have other ideas on how to fund industry development?

Ideas from stakeholders on how to fund industry development and the employment of an Executive Officer include through industry raised funds; government support and political leverage; funds from packers; and a range of other opportunities including fundraising, a tariff on imported honey, and the establishment of a honey co-operative.

It was mentioned that industry, through beekeepers themselves, should invest and come up with the ideas rather than be told by government, and they then own and control it. Suggestions include an annual membership fee for both commercial and hobbyist beekeepers. It was also raised that others with a vested interest in industry could also become members of the peak industry group and pay a fee.

A levy for honey packers was another opportunity one packer raised; packers could do more to help the industry as they are making good money sending medicinal honey overseas. One packing company, AHV is committing to giving back 1% of their total revenue to industry. They are yet to establish how to distribute funds but they would still like to have an element of control over how it is used. It was suggested they may look at BICWA, but this certainly provides an opportunity for industry to access funds and align themselves with companies who want to have a positive social impact. At the end of the day, packers along with beekeepers are focused on helping lift the value of honey and put WA on the map with an international reputation.

Government support identified both state and federal governments and their support for diversification of the economy and an opportunity to discuss how to strategically advance the industry in a sustainable way. Industry can lobby government for funding, access government funding initiatives, seed funding, seek in-kind support from government in the form of an office and administrative duties, and push for research funds to focus on WA specific research.

There is also an opportunity for industry to leverage funds against government programs as this is a common way to create additional funds. According to a stakeholder there is real appetite within government and politically to see buy-in from industry and a return on investment.

Another suggestion was to establish a royalty of 5 cents/kg of honey sold that would be directed to fund industry and an EO, and also to investigate additional non-honey funding opportunities in pollination. Imported honey could also attract a huge tariff to protect industry from adulterated honey and from disease, and allow funds to be redirected into a marketing campaign to access markets and fund an Executive Officer.

An increase in the Fee for Service via the APC was suggested, however for industry to access those funds the functions of the APC would need to be opened up to include export and industry marketing. Other ideas for pursuing additional funds include through the hive registration process and unregistered hives; the federal honey levy; fundraising; sponsorship; donations; and also, from capitalising on the IP and research done by the CRC.

Building alliances and partnerships with industry stakeholders is seen as important to access funds along with communication with Austrade to help target export markets and investigate funding opportunities in the medical and cosmetic space. The development of an industry co-operative to market honey, similar to the dairy industry, that could pack into different brands and export product was also raised which would be overseen by the industry Executive Officer and help fund their position. The Wines of WA funding model was also mentioned was an example the honey and bee industry could further investigate.

Some words of warning were that a levy for industry would not be popular and while it makes sense to increase rates per hive, it is a hard story to sell and would anger beekeepers. Any funding needs to be sustainable.

Industry

- Funding opportunities have to come from beekeepers and industry - they have to come up with ideas and how to fund it and also the broader industry too. That is far better for them rather than government telling them what to do. If they own it and control it they will invest in it and have skin in the game. (1)
- It really has to be a membership based fund, I would definitely suggest membership that feeds up from the groups below so they pay an annual membership per person. What that creates is that they will willing to participant if they put money into something whereas at the moment there are some floundering because it is voluntary. They might be able to get something from the packers or they may want to keep their membership open and encourage anyone with a vested interest in the WA bee industry to be a member. Don't discount the recreational guys either, because you want to bring them into the fold to encourage biosecurity. (13)

Government

- There is a role for state and federal government - do they genuinely support diversification of our economy away from mining, if they do support these industries then they need to do more than paying for the role, they should also come to the table to talk about fires, management, and access. There is a lot to this in terms of we strategically want to advance in the honey industry in a sustainable way which is very important as having poor honey produced is not sustainable. All beekeepers are passionate environmentalists at heart and they don't want to see a version of Tasmania where no one cares about native pollinators. Industry already gets death by a thousand cuts; it pays fees for its locations, pays other little fees and that adds up together so again beekeepers are best placed to talk about their own costs but I'm aware they pay different fees to different groups for different things. I am not really sure. (2)
- You could lobby government for funding. (4)
- Political leverage leverage funds against government departments, that is a common way of using a small amount to create a bigger amount. Industry raises a portion of funds and go to APC and get them to put in some and then go through the Department or up to the Minister and have like 40% and 60% split to leverage. There is real appetite within government and politically to see that buy-in and return on investment. The challenge is sustainability of that funding source. (6)

- Should APC and the Department look at members in the number of hives and registrations, there would be considerably more funds if everyone was paying their share. Federally, there is also the honey levy in place but that becomes challenging as you start vying for funds that everyone else is – what do you go without? (6)
- Some of the other industries work on a royalty system, maybe a potential subsidisation by DPIRD or Dept of Forestry even if they are providing an office and admin type stuff, then it only means there is the salary for industry to cover. Royalty of 5 cents per kg bulk honey sold goes into the pot which is redirected to fund an industry person. Other things shouldn't be discounted as well with the non-honey benefits – every if a royalty may be feasible to include you also need to consider bees employed to do pollination. (8)
- Through project and grant funds government initiatives and funding opportunities are out there through a project. In horticulture most industry development roles are funded through projects via the levy on commodities which we invest on their behalf i.e. Apple and Pear levy funds and industry officer. It depends on the industry; some have state-based RDO depending on how big the industry is with the possibility to have it spread across states like the avocado industry where there is one based in WA. The levy on honey and honey bee products (wax – no levy on pollination) is managed by Agrifutures. The opportunity has to be aligned with our strategy and focus on our work: it has to be a national focus. I.e. Tasmania developed case studies applicable to all of Australia, you can do work in WA but it has to have the ability to nationally expand to all of Australia. (9)
- With research funds, you might be able to get some from the WA government, they would want to do WA focused research and it is hard sell for us to do WA research. The majority of commercial beekeepers are over east so it is hard not to do research that is applicable to them but there is no reason if WA wants to do some research that is applicable to the rest of the beekeepers. (13)

Fundraising

 There is a number of different ways that different states do it. In NSW, the beekeepers use the Royal Easter Show for funding their beekeepers association. There needs to be some fundraising whether that is through levies (I don't suggest they do but they could) but fundraising somehow. (4)

Packers

- The easy way out would be to do a levy but that won't be popular. Opportunity perhaps if instead of a levy on beekeepers, levy honey packers but it would have to on a fair scale across the board and everyone has to agree to it. Otherwise, you will find a couple will fund it and others will not and then people feel disadvantaged by it. Funding needs to be sustainable, and you need people to do that. As an industry everyone is maxed out on what they are doing. (4)
- I believe packers could do more to help state bodies. How do you expect industry to be strong and support us when they are cut off at the knees? Packers are all sending their medicinal honey off shore and the prices they are getting are huge, they are making good money. AHV is committed to giving back 1% of total revenue to industry. Right now, we also pay 4c/kg back to industry through the National Levy which is mandatory. Only a pittance goes to honey. Everyone is broke, we are a social enterprise and we have built in 1% total revenue to go straight to industry. We haven't worked out how and who to give it to. Most of our revenue comes from WA support, we are not interested in pollination but more so lifting the value of honey and putting WA on the map in terms of an international reputation. We may look at BICWA but we will still have an element of control over how it is spent, it is a way for industry to get money. Align themselves with companies like AHV private enterprise who want to have a positive social impact as part of the model is giving back. I know beekeepers will put their back up if they want to increase the rates per hive and what they are doing is pissing people off so then they need strategies around how to deliver this news. It makes sense to put up the price but it is a hard story to sell. (14)

Other ideas

- A report on the industry structure going forward was done by Sue Middleton in 2020 and that provided some guidance of how industry should be funded. There were several options, but it is up to industry to make that decision. Look at Wines of WA and apply their funding model to bees. (1)
- There are different streams you need to concentrate on – initially some seed funding from DPIRD to get someone on board to sort funding out for that role and then access grant funding and they will be ready when grants come out. We are missing out as we are too late or don't have the knowledge at the moment. (5)
- It is about working with sponsorships, donations, building alliances and partnerships. There is also the increase in FFS, but again industry will need to apply for that funding, we can only get to funds as we have contracts in place. We need to work on increasing the functions of APC and then increase FFS. At the moment funds are used for biosecurity and a little research and communication. We need it to open up for functions for export and industry marketing and all of that. The bees APC is the only one that has not opened up to all functions. We have support from the APC BPC section that they will start the process. The complication with the FFS is that it is for commercial and recreational and in opening it up for export functions, it is then not applicable to everyone. (5)
- APC changing the FFS so all beekeepers who benefit pay a little more. (6)
- Funding you could have a registration board where they pay a nominal fee per year. (7)
- There would be some value in discussing with the CRC what happens next out of the CRC - they have produced the goods; it's been commercially successful with the increase in honey price. Also speak to Austrade because they have export markets that would be paying that premium price. I would hate to think all the good work dies a death at the end of the CRC. NZ made a lot of milage out of Manuka honey and have IP protected fiercely as to what can be called Manuka honey and I would think the benefits we see in Jarrah etc. are superior and there should be consideration of protecting IP in that space. There is an opportunity for BICWA with jarrah in particular as a WA endemic plant unique to the south west of WA. There has also been some good work around bee venom including demonstrated benefits in breast cancer research. It opens up the market for potential funding opportunities in the medical space from my observations there seems to be more dollars in that space rather than honey and also within the cosmetics sector. (8)

Other ideas Cont.

- Any time Australia imports honey there should be a huge tariff to protect the industry from adulterated material i.e. false honeys and potential disease but also to provide local industry with access to markets as tariff funds could be channelled back directly to fund marketing campaigns or the EO. (8)
- If a cooperative started where good beekeepers provide honey, like the dairy industry, where everyone supplies locally packed honey into different brands and it is exported - it could fund an executive Officer. We will continue to support Fewsters as we have a long-term arrangement in place but it is more of a case of beekeepers having someone to guide them, otherwise they are producing honey for honey's sake. Get the backyard producers to sell honey too. They keep approaching us and they are asking for higher prices because of the tender loving care they have given it but at the end of the day no one will buy it at \$30. They need to understand farm gate pricing compared to buying a wine bottle down south compared to super markets - they are poles apart. We carry premium Jarrah, Manuka from NZ and sell the health benefits. An EO could pull it altogether. Manuka is the top range we carry but we have many different varieties and we support WA businesses with prices from \$30 and down to Wescobee twist and squeeze \$2.99. Our choice is driven by consumers, if they see something different, they will give it a go and if they use it for the table, they want something cheaper. (12)

Other comments

- The number of beekeepers in WA is proportionally less than other states, hence get less money. I am not aware of any new sources of money; you need to keep going back to old sources. The challenge is, do they support an Executive Officer in industry or an extra Apiary Officer – DPIRD is under resourced compared to the earlier days where we used to have 9-11 staff in the 80s involved in research through to compliance to inspection. But it is the same across the board with staff numbers. (6)
- We wouldn't consider funding them, to us they are just another organisation. They have done some great work around standards for Jarrah and Marri honey with the ChemCentre. It is gold standard and it would be great to do it for some eastern state's varieties i.e. spotted gum - we are working with them as to how to use it for other varieties. There are possibilities that if they want to do a project, we wouldn't say no. With the CRC winding up there won't be a hole – UWA is very active in the research space and one of the biggest universities doing research. We have just funded another project around minerals and vitamin requirements of honey bees. They also focus on honey for coughs and tonsilitis. CRC has pushed research along but there is a good legacy that will keep it going. (13)



Q4. What do you believe are the two main opportunities for the WA bee, honey and pollination industry in the next five years?

The main opportunities for the WA bee, honey and pollination industry in the next five years as identified by industry stakeholders include pollination of horticultural crops; marketing of medicinal honey and WA branded honey; collaboration with stakeholders and the development of total activity (TA) industry standards. Others include branding of product based around our biosecurity status of being clean and green; promotion of individual floral species of honey; export market development and further research.

Marketing of WA honey is a big opportunity in terms of an industry led marketing campaign to educate consumers and promote WA honey and its medicinal value, health benefits and its clean and green environment. It was mentioned that WA honey should be promoted as a premium product without a specific tag or alignment with a particular floral species. WA honey also has the benefit in that it is a natural product that doesn't need to be heat treated.

Given the success of the New Zealand campaign for Manuka honey and lack of marketing within Australia or WA, consumers are not aware of the properties or the uniqueness of Australian or Western Australian honey. There is a huge opportunity for development of a national campaign that will benefit all states and / or a more specific Western Australian campaign to educate consumers, increase awareness and promote the benefits of WA honey. It was mentioned if consumers are educated, they will be happy to pay a higher price. An example cited of a successful marketing campaign is the Australian lamb campaign.

A marketing campaign could potentially lead to an increase in sales and interest in WA honey in the domestic market, intrastate and the export market, and it would raise awareness of local honey as opposed to cheaper imported honey. Stakeholders also stand to benefit from a marketing campaign.

Marketing ideas include advertising, ambassadors, branding, instore promotions etc. which can all help to promote the value of honey along with why it is important to buy WA honey. The story of honey is important to let the world know about WA honey and how it is better than Manuka, and that Western Australia is the home of medicinal honey and can provide multiple flavours.

While a marketing campaign will cost industry, it is believed that the returns will far outweigh that. And while it is hard to develop branding when industry is limited by cash, one stakeholder said there is lots of opportunity for industry to position themselves and piggy back off others.

One packer, Australian Honey Ventures, has recently invested a lot of money into developing their marketing strategy and branding in their endeavour to be the most successful in Australia. They believe industry, given its lack of resources, could work with them to position themselves as 'world's best honey' and communicate and support what AHV are doing instead of reinventing the wheel. It was mentioned by another stakeholder that BICWA also has the opportunity to continue on the work of the CRC with the West Australian honey campaign where they have access to five markets and consumers.

More collaboration with stakeholders provides another opportunity for industry through communication, provision of information, promotional support, and in lobbying government. Many stakeholders don't have time to keep across the WA honey, bee and pollination industry and issues, as they are focused on their businesses however there is an opportunity for industry to reach out and develop relationships and assist with promotion and education of consumers and the availability of products. As mentioned by one retailer support with in store promotion through taste testing or free samples would also help to educate consumers.

Q4 Cont.

While a manufacturer like Mundella, who utilises a blend of Australian honey and imported honey for their award-winning Greek Honey Yoghurt, can't be easily swayed to change to WA honey as they are concerned it will affect the taste profile - they are open to collaborating with industry in trials. They are supportive of a range of WA products, however they are concerned about the price of WA honey and also supply as they believe WA wouldn't be able to fulfil their demand.

Industry could collaborate with stakeholders to lobby government and politicians to push the message that government needs to get behind the industry and provide examples that it will quadruple the GDP of the WA honey industry. As a stakeholder said, it is about showing government why they should support industry like the New Zealand government gets behind Manuka honey, as unfortunately WA doesn't get that support or recognition.

Opportunity also exists in pollination with massive growth in the avocado industry it is believed there will be a need for more beekeepers and bees to meet the demand for pollination services in the future. To address this opportunity, industry can investigate other applicable horticultural crops; assist in promotion of the value of bees for pollination with an increase in yields; and work with Hort Innovation to access relevant research and to put together a value proposition document to show the value of pollination. There is also potential for the peak industry body to liaise with producers and establish a pollination hub and set up rules, regulations and contracts.

However, it was mentioned that industry needs to act more like a business if they want to take advantage of the pollination opportunity and follow the path of the beef industry which has transitioned from lifestyle focus to a business focus. It is believed that the WA bee industry needs to improve and bring bees out of the field and into feedlots, like the beef industry does, to understand what they need to eat to manipulate systems to improve productivity.

Branding based on the biosecurity status of WA honey is also viewed as an opportunity to build a strong brand aligned to the quality of the product in terms of being clean, green, ethical, lack of use of chemicals, balanced with the environment and floral species. It provides a strategic advantage for WA in comparison to other countries and unless biosecurity is bolstered, the industry risks losing that status if there is an incursion. It also provides an opportunity to build up the brand and the story as part of a marketing campaign to target export markets.

Currently there is confusion within industry around the TA rating of honey. Despite an existing industry maximum testing level of 35, people are falsely labelling their products with a higher TA and forging documents in international markets. Stakeholder ideas to address the issue include development of an industry standard similar to sunscreen (15 plus, 30 plus, 50 plus) which could apply in the honey space and be determined by testing methodology. Industry wants a quick, affordable and robust test for TA but that is not possible as a researcher outlined; robust needs to stand up in a court of law and requires lab based testing. It was raised that there is opportunity to capture further price premiums if the TA is higher and beyond 35 - therefore creating a rating system to promote honeys with huge percentages would be beneficial and it could be very useful in modern medicine. The rating system would need promotion in export markets to raise their awareness.

Q4 Cont.

While WA is focused on the TA rating, New Zealand has identified the active ingredient in Manuka as MGO – so research is required to determine what the active component is in WA honey which can help with marketing. WA's higher medicinal honeys provide marketing opportunities and the ability for beekeepers and stakeholders to obtain a premium price. One packer has already adopted a pricing model that pays beekeepers based on the TA of the honey and they believe they are able to pay more for honey than other packers, and are lifting the overall value of honey.

There was also talk about branding of individual floral species of honey, although stakeholders were mixed in their opinions in terms of opportunities around Jarrah; some believe the uniqueness of Jarrah and its bioactive properties equivalent to Manuka provide an advantage in the export market. Others were concerned that it would set industry up to fail if one particular floral species was pushed, along with concern about inconsistences in the supply of Jarrah. Opportunities were identified in export markets for honey and honey bee products with the clean and green image and the provenance of the product. Target markets include Japan, China, Middle East, India and Asia. While there may be opportunities in South Korea, industry would need to lobby government to advocate on their behalf to remove the high import tariff as it makes it impossible to sell product and compete with the United States which has zero tariffs. The Australian government signed a free trade agreement and didn't negotiate on honey.

In terms of research, there is opportunity for greater collaboration with Agrifutures through reviewing their research and strategy plans and the yet to be published Levy Industries Research Compendium which summaries all research funded by the honey levy (release due June 2022) to understand what research has already been undertaken. Hort Innovation can assist with research based around the utilisation of bees as pollinators for horticultural crops. Other research opportunities include accessing funding in the medical space to investigate the use of bee venom in breast cancer research, and for honey and its medicinal benefits for the treatment of IBS or diseases like Parkinson's.

Other opportunities that were raised by stakeholders include the sharing of IP from the CRC; liaison with DBCA and Forestry on resource management and access; and the opportunity to provide exclusive products to smaller retailers that will attract a premium price in comparison to competing with cheaper honey in bigger supermarkets and devaluing the product.

A stakeholder suggested the strategic plan could be used as a funding prospectus for investors and include industry achievements/ success stories, and information on the industry to get significant buy-in. It could also become a lobbying document to take to government and will give industry something to aspire to but also guide them.

Biosecurity and branding

- Biosecurity and disease control our bees are clean, we don't have diseases that they have overseas or over east and that is our strategic advantage compared to beekeepers in New Zealand, Sydney etc. Industry has an opportunity to use that. It will all go south if we get something. (1)
- The biggest opportunity is to build a very strong brand aligned to the quality of our product in terms of clean and green, lack of use of chemicals on many honeys (not all - crop) and marketing that separately to the international market, don't bother with the domestic market, and along with that bolster biosecurity (i.e. varroa mite risk). We have all the protocols in place but with the flow hive I am aware of lots of people who don't have accreditation who don't know about the importance of the biosecurity of their hives so that introduced species such as varroa mite don't get into our industry. For me the opportunity is clean and green honey and growth in placing it as sustainable and ethical honey i.e. don't have too many hives on site and they are not overdoing it in production. It is balanced with the environment and floral services and maintain that. (2)
- Disease industry status is an advantage for industry and to try to keep it that way, as well as other pests and diseases like varroa. We shouldn't let it in and need to maintain our biosecurity and don't let it lapse. We have the cleanest greenest honey in the world – one of the main issues when saying that is it wouldn't take much for that to change once we do get it. How do we differentiate our honey? It is inevitable it will come but we live in hope to hold it off. Right now, it is the cleanest honey in the world, its gives you an edge over competitors. I don't suggest you run competitors down; it is about telling everyone how good our stuff is and build a marketing campaign as part of it. Marketing is done by the packer, and also individual beekeepers who are packers - if industry wants to do it as well it is not a bad idea as it benefits every packer, instead of individual packers benefiting. We see industry sales increase every time it's done. There could be different messaging, some tend to knock down the tall poppy and you don't need to do that as it doesn't help the overall industry. It is about promotion that Australian honey is better. If industry was to do something like the lamb industry that would be great, take a leaf out of their book. I don't know if WA should do it on their own but do it with AHBIC nationwide. (4)

• Biosecurity and our clean, green status is presenting us well and our higher microbial honeys provide a marketing opportunity for an increase in honey price for those who either align or pursue their own export dreams. We have seen middle sized beekeepers doing that instead of selling to wholesalers. (6)

Pollination

- Pollination is the growth opportunity going forward, for some commercial guys it distracts from the honey production business. For some higher end amateur and semi commercial producers, there is good money in pollination services if they are on the ball and they can make a good living trucking hives around the countryside. (1)
- Pollination liaising and setting up a pollination hub that can be run by the industry peak body and set up rules and regulations and contracts under BICWA. It could be a sub committee. (5)
- Avocado pollination is a massive growth industry and a reasonably lucrative one - pollination rates have doubled from where they were, and with that also some expectations for those choosing it. It is a great early season cash flow and there is still growth in avocadoes. Avocado pricing has taken a hit and we are yet to see the fallout from that. Industry can promote there is a lot of value in the use of bees to increase pollination. Aside from avocadoes there are other crops like blueberries which have value and there is a very big almond farm that uses a lot of bees early. (6)
- Pollination is a big growth opportunity some of the agricultural practices are more intense and some of the natural pollinators aren't as prevalent so bringing in honey bees as a scheduled source of pollination could become more widespread. It is used in the United States more than here. (8)
- The avocado industry is expanding and there will be demand for pollination services, whether industry can meet that demand is another question. It is a triple bottom line cost but producers have to see value in it. It will be more important to horticultural producers in the future moving forward. A lot of feral honey bees give a lot of free pollination but they don't know how much they rely on them until they lose that free pollination. There is research there showing the value of pollination to certain industries. Shepherd and Hass avocadoes have different requirements across the varieties. Industry could collaborate with Hort Innovation to put something together to show the value of pollination that also has a national focus. We are happy to work with industry groups. (9)

Pollination Cont.

 Pollination – beekeepers are missing out. Almonds, avocadoes etc. are going in the ground hand over fist and industry needs to get on that train; what we need to do is understand how to do that and start acting like businesses. I feel we are 30 years behind beef production where it is business versus lifestyle. I think we are at a pivotal time in our industry where we need to get better, bring bees out from the field and into feedlots like the beef industry and understand what they need to eat and manipulate systems to get onto that. Once industry starts acting like a business, businesses will want to invest in honey and bee businesses. We need more people and more beekeepers - 1800 beekeepers in WA are not enough. Hives used for pollination currently across Australia is about 285,000, in 5 years time it will require 325,000; it reads like a minimal increase but 50,000 hives is a lot of hives - that's about 100 new beekeepers - where will they come from? It is not treated like a business at the moment. (13)

Export Market

- In terms of export markets there's a lack of appreciation of the opportunity in Japan, the Middle East, India and Great Britain in terms of what is potentially available if we tell the right story with provenance. That technology has been developed by the CRC and the IP will belong to BICWA after the CRC disappears. (1)
- Export markets for all honey bee products and establishment of new markets for honey products. (5)
- I strongly believe export can be huge because we are so isolated and the most bio secure area in the world; biosecurity is paramount. Anything that has WA honey in it will be sought after by the rest of the world, whichever form it comes in beverage, honey nut bar or straight honey - WA has proven to the world it is clean, green and they are good products. The Asian market is huge and they regard honey as liquid gold. (7)

Marketing

- Medicinal honey has potential for marketing there is value in an industry led campaign, so we don't confuse consumers of other jurisdictions. If you look to New Zealand with Manuka and do something similar, learn from that and use that as the foundation. In doing a campaign you need to make a decision what to do with jarrah which is the natural choice but beekeepers also produce blackbutt, marri, karri etc. which are also highly medicinal and rare. That should be part of the piece of work; what is the education effort you put into the market? There is so little about honey and its health benefits in the market. Target both domestic and international but if the budget is limited target international – Middle East, Japan, China, South Korea – although we need to get rid of our 243% import tariff into South Korea as we can't sell any product into that and compete with the United States which has zero tariff. We signed a free trade agreement and didn't negotiate anything on honey. It would be nice if government actually thought about the honey industry in terms of FTAs. (2)
- There is opportunity to push WA honey as it doesn't need to be heat treated, it is more natural and do more on the marketing side. We would be keen to collaborate with in-store marketing and do some point-of-sale promotion. The demand is there, but we can't be priced out of the market. It is like caged and free range eggs, there is a gap between the two which has narrowed down but people will pay the extra dollar but if they are priced out of the market, it won't sell. It needs to be competitively priced, obviously a more premium product will need a premium price but it can't be double the price of blended honey. Jarrah and other variants, you will need to upsell them. With generic WA honey there could be different tiers in the local honey market - cheaper variant - canola honey etc. But for the ones who know of say the chemical risk, you can upsell them the Jarrah. It would require education, promotion and awareness. Our business model is value for money but we also like to give choices to customers. If they are educated, they will buy a more premium product. We give customers the choice and it is up to industry to educate the customer to buy WA products. I know the fully imported honey hasn't worked for us. (3)

Marketing Cont.

- We have an awesome premium product but marketing doesn't tell the same story, i.e. Manuka has a good story in terms of its medicinal value and it also has the name. WA has such great honey, if not better properties. The world does not know about our honey product, medicinal value, its pollen as well the whole inclusion. A national marketing campaign should be run across every state. CRC launched AHIBUC to promote Australian honey. BICWA will be involved in marketing in the future and will take over the CRC West Australian honey campaign. It involved 5 different countries, where it was launched and will give us access to markets and consumers. BICWA will keep them up and start to engage more and work on the story of WA honey to promote it. (5)
- CRC talks a lot about mono floral honeys and marketing them. In a survey done by DPIRD there was very little interest in antimicrobial as a marketing term – the clean and green rated higher. The risk in antimicrobial and TA is that it reduces over time, and there is risk it is being over represented or measured today and could be different tomorrow as with time, exposure to air and light, from the moment they extract it, it does start to reduce which is different to manuka honey where it often holds or increases. Jarrah and a bunch of other WA eucalypts tested better in TA but Jarrah is challenging to harvest. While it is seen as a premium product, plenty of honeys outperform it like Blackbutt, Redgums etc. are still very high and the beauty of some of them is that they are more reliable performers and there is bigger volume. While they may not have the uniqueness of Jarrah or the challenge to collect it or obtain it, there is opportunity to market some of those honeys more profitability. (6)
- We need a marketing campaign if you look at NZ with Manuka, we need to promote WA honey without a specific tag to it and promote that it is one of the best places in the world and promote all honey as WA honey. We can still promote any honey as a premium product because of the level of biosecurity we have here. We are concentrating on the Asian market and finding a lot of traction there for our products. If the industry did have some sort of marketing push with WA honey it would also help us put our product out there. If we can promote WA honey as premium anything using honey will become premium. (7)

- Once you have a coordinated approach across industry it becomes a marketing focus. Real milage can be made in getting some brand awareness. If you ask someone what is the best honey, they assume it is Manuka from NZ but Australian honey is far superior but we don't have market presence. The NZ industry is good at promotion and working beyond the farmgate. Effectively it will cost industry but the returns will far outweigh that. (8)
- Medicinal honey; work on Jarrah honey as it has been found to be even better than Manuka. You need to do a lot of marketing in that area; currently there is no marketing program for Australian honey as there is no marketing levy for the honey bee industry and AHBIC don't do anything. Consumers aren't aware of the uniqueness and special properties of Australian honey – they only know supermarket versus manuka. Invest in marketing through advertising, ambassadors and industry needs to promote Australian honey and the value and why it is important to buy Australian honey. The issue is overseas honey is flooding the market and causes the price to drop. The industry as a whole should be promoting themselves and they need to work closely with AHBIC. (9)
- An industry led campaign to promote WA honey would lead to an increase in sales and interest in WA honey as opposed to overseas product. (11)
- We have spent the last 18 months developing branding, and if you are limited by cash you won't succeed. Unfortunately, industry is out of cash and focusing on things that will give them a quick injection of cash. There is lots of opportunity to position themselves, it took New Zealand 10 years to become the world's best. Industry should be focused on all medicinal honey, they are blind sighted by Jarrah of which there is only 500 tonnes every 3 years, it is not a big enough supply so it is set up to fail. Promote we are the home of medicinal honey and can provide multiple flavours. And develop a strategic focus on how to set up industry for success. (14)

Marketing Cont.

- The low hanging fruit for the WA industry is the wonderful honey we produce, our medicinal honey is stronger than Manuka. It is about positioning marketing and a selling point of difference. We have just spent \$600,000 getting this done. It's all in the marketing side –developing a marketing strategy and understanding the audience and establishing a brand. Industry needs to catch up – how? They could work with AHV to get up to speed and position themselves as world's best honey. We have a 5-year contract with the UAE, Kuwait, Saudi Arabia and Bahrain and we are also negotiating a contract with a supermarket. BICWA need to get into branding - brand identity, narrative etc. Considering they don't have the resources realistically where can they get it? While they need to get it done, they will never have the money to do it well. AHV is doing it well and we are cashed up, we have contracts, celebrities and are leading the way. It is about picking up the phone, saying we love what you are doing, how can we support what you are doing and piggyback off you. If industry had \$100,000, how can they leverage off what AHV has done? Why reinvent the wheel when it has already been done and successfully? There is a lot of bitterness in the industry and people are not happy with what we have done. (14)
- Why market Jarrah as the be all and end all as you are setting the industry up for failure. Hence we have re-established it into three different TA. As a result, we are able to pay beekeepers more money for honey that no one wanted or cared about. AHV can potentially increase annual revenue. While some people stand to lose a lot, there is a silver lining in what we are doing as we are lifting the value on all honeys and beekeepers can benefit from that. Packers will find it hard in the future, beekeeper packers will stay open. We have made a huge commitment to marketing – our brand will be in pharmacies in the Middle East. We also use the Honey Badger as our celebrity. We are building our brand to be the most successful brand in Australia. BICWA should be working with and communicating with AHV and shouldn't cut their nose off to save their face, as we are doing massive things for industry and we need the industry to support what we are doing. (14)

Branding of individual varieties of honey

- There is massive advantage around jarrah honey and getting that sorted out in flow rates and market opportunities. There are certain countries - Japan, Middle East, Korea who have cottoned on to the Jarrah story and there is a value adding opportunity going forward. We need more industry led promotion on Jarrah honey in terms of the both the flavour profile which is unique and also the medicinal value (bioactive properties are equivalent to Manuka if not stronger) and to take advantage of export markets. (1)
- The biggest problem with us is consistency, we used to go down the track of being able to have WA honey which was branded honey i.e. Jarrah, Redgum, all different varieties. I am not sure if it is still available now as we just get a blended one. But there is opportunity to market the different varieties. People come in to the store looking for certain varieties and we can't get it all vear round.(3)
- NZ made a lot of milage out of Manuka honey and have IP protected fiercely as to what can be called Manuka honey and I would think benefits we see in Jarrah are superior and there should be consideration of protecting IP in that space. There is an opportunity for BICWA with jarrah in particular as a WA endemic plant unique to the south west of WA. There would be some value in discussing with the CRC system what happens next out of the CRC; they have produced the goods, it's been commercially successful with the increase in honey price. I would hate to think all that good work dies a death at the end of the CRC. (8)

TA of honey

- TA requires an industry standard like sunscreen has 15 plus, 30 plus, 50 plus for anyone that claims above that. It should be the same thing that should apply in the honey space. It should be determined by testing methodology - 50 max value anything above that marked as 50 plus. With the fraudulent activity – the 50 plus was erased and the supplier put in 85 so the consumer thinks the bigger the number the better and they are buying that in preference to one at 45. The current controversy in the market is that industry wants a quick, cheap, robust test but you can't have a quick, cheap and robust one. Pick any two – we have had discussions with the CRC around some testing. Some is like a screening tool, but in terms of a court of law it won't stand up – it is not a characteristic limited to honey. Say if you are asked to blow into a bag for an RBT, most of the time when you are above a certain level you are asked to submit a blood sample to confirm and that is a robust test that will stand up in a court of law. Honey testing -UWA has a cheap and quick test which is fine for screening but if you are comparing two products you want robustness as it determines which one is superior so you require lab based tests. (8)
- With Manuka honey they have identified the key ingredient is MGO so they test for a percentage. But with the Total Activity in our honey, no one has identified the ingredient in honey as there is not enough money to do that. We don't know what is making it so antibacterial. We need to determine what is the active component within honey so we can stop writing TA. We could potentially do it ourselves. (14)
- TA testing beyond 35 a teaspoon of honey and phenol are compared in terms of strength. With the reports honey at 17% gives a TA rating of 17 and it continues on from that. Unfortunately, the testing methodology stops at TA 35 plus but then the report says next to it 61%. A lot of beekeepers have bypassed the TA and started putting on their own labels and have got into trouble, they take the % which is 61% and promote it as TA of 61. We have honeys of TA 35 plus but what about a TA of 60 – imagine the money that could be made and how useful that would be in modern medicine. There is a huge opportunity. We need to create our own rating system to promote honeys with huge percentages because international testing standards are limited to TA35 plus. We could be getting \$1000 jar if we had the ability to market at 61% level. There is no other rating system, there is the UMF for Manuka. But again, a rating system doesn't mean much, unless you market it in other countries. (14)

Research

- Industry should look at Agrifutures research and strategy plans to invest in the next 5 years. Hort Innovation is also focused on growers' aspect but we do have things that overlap – therefore we invest in the European honey bee and ultimate pollinators. For our research ideas we have our own advisory mechanisms and industry also feeds into it. We work closely with Agrifutures so we can identify the right issues and also ensure we are not overlapping. In terms of WA, the best resource is Agrifutures as they have a direct levy they can use. They should also look at other opportunities with government grants and there are still talks about another CRC. (9)
- There has been some good work around bee venom including demonstrated benefits in breast cancer research. It opens up the market for potential funding opportunities in the medical space; from my observations there seems to be more dollars in that space rather than honey and also within the cosmetics sector (8)
- There is still a big hole in the medicinal area in terms of what can we actually use honey for. We are doing work around IBS. Researchers say it can be used for anything and that it is good to have 1 tsp every day. We need to communicate the message better. More research to back up a marketing campaign – there is such a multi benefit if we focus on antifungal or antibacterial, it is only a tiny proportion. Pick a disease, research for Parkinson's – there are so many avenues we need to go down to look at for honey and medicinal honey. (13)

Collaboration with stakeholders

 There is always competition out there, you need to market the product for people to value it, you need to sell the benefits of the product. We will aways buy it when available and when we can buy it, we will carry WA honey. We run that at a lower margin than other products. We want to push it as we are a WA company. I am not really across what is happening in the industry as I don't have time to look into it and be across how it works and why it works this way. If we can't get WA product, we look to blend it with stuff from over east. For the last 5 years there's been a lot of shortages in WA and a lot of price increases coming through with WA honey. It would be good for industry to liaise with stakeholders and educate us on what is available, the pricing etc. and build a relationship with us as it also helps us step towards educating consumers as well and also help with some point-of-sale promotional information. (3)

Collaboration with stakeholders Cont.

- The choice on the shelf is fine, I am not sure marketing would help if you want your purchase. Mundella – we purchase 1400kg of honey a week through Hive and Wellness and use if for our Greek honey yoghurt which is an awardwinning yoghurt. It is a combination of blended Australian honey and imported. Would we change – we aren't looking to change our honey as it is an award-winning yoghurt. Price can be an issue; we have looked at other blends before as a contingency plan if we can't get our other blend. We couldn't change it to purely Australian honey because the price is too high, and what we have now is working and if we did change it, it would change the taste of our product. We are open to trials, we wouldn't say no but it would be a price driven thing – if it is too much more it wouldn't be considered. We do promote other local products like WA milk, we are WA based and run and our employees are WA based. People are aware of honey that is imported. WA honey can be too expensive and there is not enough in WA. We have a large demand and WA can't fulfil that demand. We would be open to hearing about opportunities to work with industry, but whether or not the company is in the position to make changes in a financial way is the question. Our Greek honey yoghurt is a quick moving product. There is certainly opportunity for collaboration, but it could also be difficult as Mundella is owned by a larger company and the focus isn't always on us – it could be brought up and taken to a higher level. (10)
- The health aspect of honey is standalone and should be explored – if there were tastings and you get people interested in honey as a staple again. A lot of people use honey as a sweetener and for cooking, reignite it in people's mind. Do in-store tasting. People forget about honey as it sits on the shelf - it is about educating the consumer. As a retailer, I am happy to listen to ideas to work with industry. Instore promotion is hard at the moment with COVID as it is difficult to do anything. We find giving away samples in store works well. (12)

 Lobby government - BICWA can access government support but before that collaborate with stakeholders like AHV to sell to government the need to get behind the industry with examples like it will quadruple the GDP of the WA honey industry. Talk with politicians to get them behind the healthy and socially appetising industry. Promote it to government, if they can't see why they should be supporting industry we will show them. The NZ government gets behind Manuka but we don't get that support or attention or recognition that it is a huge money spinner which is embarrassing. (14)

Other areas

- Resource access and management fires and logging are the biggest threat, and there is room for the biggest improvement with the need to better manage the resource. People who do prescribed burns need to listen (don't stop all fires) but manage them better - don't burn so regularly and the fires are too hot, whereas other areas don't get touched for years. It needs to be done differently. The amount of logging is selective but it didn't leave much else, that could also be done better. I'm not an expert but I am looking on as an outsider. (4)
- Fraudulent activity in test results we have been involved in a couple of cases overseas where outlets of Australian honey are claiming forged reports. We issue reports of data from us and the National Measurement Institute on letterheads and as signed copies. There have been reports in the Middle East of them photoshopped and values on those tampered with. Industry is aware of that and we have made Australian trade aware of it - but industry wasn't interested to hear from us or interested in pursuing it as far as I am aware. Industry members are disadvantaged, in this particular case there was one supplier that made themselves look better than what they were. If you are going to have a standard people need to comply by them and there needs to be a mechanism where there are penalties or some sort of sanction applied. The fraud was at the Middle East end of the equation not the Australian end. (8)

Other areas Cont.

• It could always be more coordinated, when I first started dealing with them it seemed to be segregated entities and it wasn't until the bee industry conglomerated when they had agreement on research direction. The journey is not completed, there still seem to be concern around how IP is shared, some is considered industry knowledge and proprietary knowledge. The way we are funded is we get a small amount of R&D from the state government and the way we tend to use that is proof of concept or through a small amount of method development to determine something that can benefit industry as a whole rather than a specific entity. We can do fully FFS R&D, we don't put in any money. The CRC is coming to a conclusion on 30 June 2022, we have done a small amount of specific contract research for a couple of entities. CRC for Honey has done lots over the last 5 years – there was some work prior to that with BICWA which led into CRC being a real entity. Research – provenance testing for honey, characterising nutrition and nutraceutical benefits in honey and methodology to determine monofloral and West Australian honey. Prior to that contamination and adulteration of honey as well and I would like to think that work was very successful. Eight years ago we were selling bulk honey at \$3kg and now it has additional benefits identified and is on the shelf for \$200/ kg – that is a huge value increase and opportunity for industry retailers. There was always an understanding that it had beneficial properties and that some had more than others - the testing developed in collaboration with industry partners allows us to say what is claimed to be and that it has certain characteristics that are known to be beneficial. One of things that needs to be done out of that work is to guarantee access to jarrah, marri and other plant species that contain these beneficial characteristics. It is a challenge for industry as a whole as jarrah doesn't flower each year. Others in industry have done work around satellite data to identify potential flowering to help keep beekeepers ahead of the curve. There also needs to be liaison with Forestry people and DBCA to make sure backburning doesn't impact on the honey industry - communication and coordination, it is a challenge for industry going ahead. (8)

• The problem is that if you go to Coles and Woolies and Metcash and you have a good product you are forced to compete with their cheaper honey – no-one needs their product devalued. The big guys dictate the market, if you can break that camel's back and sell product on quality not quantity that is where the honey industry needs to get a grip and stop promoting silly prices when people are happy to pay 3-4 times. They currently pantry fill and then you wonder why they are not buying the next month. You might produce honey for \$30 and if it is on the shelf next to Metcash honey at \$3.99 it won't sell. As a retailer I am constantly looking for exclusivity with our range of honey. I am not going to supply the same as Coles and Woolies, so if no one else has it it's a big tick. We also have our own brand and buy honey from Fewsters through a wholesaler Pemco – it is put in containers and delivered to our stores. I know the quality is exceptional. We like to know where it is prepared, stored and how it is packed. I am not really looking for certification. If industry is looking for opportunities come up with different packaging, be more creative rather than sell on price and devalue the product. (12)

Other comments

- We source WA honey and organic honey from local suppliers, we don't sell any imported honey. (11)
- We are focused on our own marketing and have our own marketing management inhouse - we do all our own labelling design inhouse. Our marketing includes social media, website, catalogues and we do instore promotions for honey. We try to offer 15% discounts every second month just off our range. We don't promote clean and green - we promote WA product and that it is organically certified. That is all included in our labelling. We do everything ourselves so I can't really comment on opportunities for the industry. (11)
- With our model beekeepers get paid per TA, not per variety. Packers pay \$30/kg for pure Jarrah, Jarrah mix \$13/kg, Redgum / Blackbutt \$5/ kg – we don't care about variety it is about the medicinal properties. Our rates are \$14/kg for TA15, \$19/kg for TA 25 and \$24/kg TA35 plus, and a bonus of \$6 on top at the end of the guarter. So many beekeepers are getting paid way more under our system than say Capilano. (14)



Q5. What is the biggest issue / challenge for you and your company / organisation with regards to the WA honey and bee industry?

The biggest challenges identified by stakeholders for the WA honey, bee and pollination industry include lack of industry standards and standardised testing for TA levels; inconsistencies in the supply of honey; lack of industry collaboration and professionalism; ignorance of legislation and fraudulent activity. Others include lack of collaboration with industry stakeholders; WA specific research; and pricing issues with WA honey.

Concern was raised about rules around the TA testing levels. Currently the ChemCentre testing allows for a maximum of 35 and anything above that is labelled TA35 plus, however some suppliers are labelling their honey with a higher TA rating. As raised by a wholesaler it is hard when they are trying to advocate to consumers when people are putting 55 TA on the label. Currently it is all built on relationships and trusting the beekeeper as it is not all sciencebased results when it is above 35. Standardised testing would help to get consistency across the board and the use of a unified testing system across industry. Testing is cost prohibitive for beekeepers and therefore they are not actually testing everything but some use the same result to sell everything which is a concern.

The ChemCentre has its own challenges in terms of the sustainability of their involvement in R&D within the industry. They have been fortunate with their involvement with the CRC but with that now winding up, they struggle to see how the honey testing will be sustainable. It was raised that they can't justify testing commercially if they are only getting 1 or 2 samples a week, as they don't have the volume to maintain the technique and personnel requirements.

Inconsistencies in the availability of different honey was also outlined as a challenge for stakeholders, this was mainly around Jarrah honey as it only flowers once every two years which limits supply. The challenge is that packers will promote the one floral type of honey and invest time and money into finding a market, only to lose it when they can't supply the product. It is believed that honey shouldn't be narrowed into one particular market; the marketing focus should be around active Australia or Western Australian honey that is clean and green.

Other honey associated issues raised include there are too many honeys in a reasonably small category and lots of suppliers are competing against each other which drives down prices of WA honey. While that is good for retailers, it is not what industry needs or wants and therefore it was mentioned that they need to start putting value back into the industry. It was suggested that a co-operative could work for industry. Another challenge for stakeholders is the price of WA honey which they say is too expensive, and drives some towards using a blend of imported honey and Australian honey. Supply of WA honey was also outlined as a future challenge as some manufacturers/wholesalers/ retailers believe it won't fulfil the growing demand, and they will be forced to look elsewhere, and specifically to the east coast for honey in the future. It is believed WA will require either more beekeepers and honey, or for existing beekeepers to scale up to meet demand in the future.

Lack of industry collaboration was raised as an issue and the need for more professionalism and unity within the WA honey industry. As a state, WA is removed from the east coast where the majority of Australian beekeepers are located and stakeholders find it challenging that WA industry is not actively involved in the broader industry. Communication is lacking and stakeholders are unsure who to talk to in WA as it is segmented. It was mentioned that there is a need for everyone to work together and develop direct relationships to benefit the industry.

Concern was also raised at the complete lack of reporting or ignorance of legislation relating to beekeeping. This includes ads on Gumtree for honey from unregistered hives and those that don't meet the food labelling laws along with little or no reporting of AFB in hives. DPIRD lacks the resources to put on the ground and therefore relies on industry reporting. DPIRD also expressed frustration in that they are the first port of call when an issue arises, however they have no authority on most of these issues so people are disappointed they can't respond. There is confusion as to what department is responsible for what issue.

Fraudulent activity in export markets is another challenge for the industry. As stated by a stakeholder, a supplier forged reports on the

label of their honey in the Middle East and stated a TA level higher than 35 (the current maximum) to make themselves look better than another supplier. While industry was notified, apparently the issue wasn't pursued. It was mentioned that if industry has a standard, then people have to comply and there should be sanctions or penalties if they don't.

Other challenges from a researcher's perspective it that WA research is hard to sell as it is so focussed and WA only produces a smaller proportion of honey in comparison to the east coast where most research takes place. It was mentioned that the rest of the world doesn't know that WA has one of the best products in the world, and that is a challenge for the industry in proving that and promoting it.

TA levels

- There needs to be the same rules for everyone when referring to TA levels on Jarrah, Blackbutt and Marri honey. You speak to some beekeepers and they hold the line of 35+ TA and then there are others who have 55+ on their labels. It makes it difficult in my position where I am trying to advocate to consumers. It should be said that these are the rules when you work in WA as it is hard when certain players do their own thing. From the lab testing point of view on high grade products, ChemCentre's view is that even if it tests higher than that only label it 35 because of deviation errors. Certain players are getting frustrated and I am aware of labels that will be coming out stating higher levels. 35 is the max level. My major bugbear is the expense of getting testing done for honey, which means that people don't test or cherry pick their best production to get the result they want and then use that to sell everything rather than test every sample, as testing is cost prohibitive. I would like to see the ChemCentre flip it on its head and say they are going to sample and it will cost 5% of what is used but people will need to sample more – so that they fill the lab as it is underutilised as they are charging a fortune. It would be good to see 20 times more samples so it evens out to the same amount of revenue or figure out some sort of model or means so that I can have more confidence when selling to consumers that what is in the jar, is in the jar. It is all built on relationships and trusting the beekeeper at the moment, not science based. (2)
- We need standardised testing for TA to get consistency across the board. We use the German one. Currently there is lack of consistency and variability with current testing for TA, it comes back to one person overseeing the industry and one system and unity instead of lots of groups. There needs to be one test used instead some apiaries say they have 60 plus TA. That is crap, we can't have it. We need a unified testing process and someone that enforce this is what everyone has to adhere to instead of making things up as we go. There are 3-4 different systems (CRC, German, US etc.), we need one system across the industry. Some tests come out with 85 plus which is non-existent. It also changes over time, and it comes back to whether you are using mono floral or eucalypt – the moisture content and sugar will determine how quickly it drops. It will drop. We use a honey broker, and it is tested before delivery – we won't accept anything less than 10 plus and we focus totally on Redgum as the availability of it is plentiful. It flowers more often than Jarrah which flowers only once every 2 years. The taste profile of red gum is the best. The research the Kiwis have done and the marketing of Manuka is great, but if you look at Jarrah and Redgum the medicinal properties are basically the same as Manuka. (7)

Inconsistencies in honey availability

- Product depends on what is available as inconsistencies make that change. We promote WA honey more than other honey. Our business model is value for money depending on time and availability. We also offer a cheaper blended honey of which some comes direct and some is blended here in Australia through Wescobee. It all depends on the season; in winter we try not to do as much blended honey as it crystallises more. We used to do a lot more in the past, our main dealings were with one packer and we have also used a local importer in Queensland. We only tried once with the imported honey and am not going to do it again but we will still go with blended honey, but not fully imported. It is a business decision to try to get spend up in store and not going too cheap. For the Better Best brand we cut down to the two options -Better Best that has some Australian honey and then the pure WA honey. Honey can be a big seller if we promote it, we need to push it out. It initially went through the roof with COVID but has died out in the last two years. The 1kg pail is the biggest seller, we don't sell a lot of small squeegee ones, our business is more bulk. (3)
- The biggest issue is the inconsistency of honey flows, if we market one particular floral type of honey and then find markets for it and sell it for next 3 years moving ahead and invest time and money and effort, and then over the next 4 years we don't get that honey. It was a waste of time and we lose the momentum and lose the export market. We need to be mindful of what we are trying to market and shouldn't pigeon hole the market into one particular honey type, just market Australian honey. We could say active Australian honey, there are many types. It is all clean green Australia honey – the jarrah supply isn't there every year. We don't market one honey type, Wescobee and Capilano did it and then ultimately there was no supply and they lost markets – as the honey came back on, the markets went to other packers which is not a bad thing. It is hard for us to try and push into that market again when we know how hard and heavy the investment into it was, we need to look at active honey as a whole rather than one honey type for continuity of honey. (4)

Other honey associated issues

- There are too many honeys in a reasonably small category, it gets back to industry giving guidance to people and the honey industry could be stronger if they worked as a cooperative and took on the big boys. When it comes to selling it is not good as they are all competing against each other and it is inevitable that it impacts the price. If 4-5 growers do a nice jarrah honey, if they work through a cooperative which packs it and sells it then they can get a higher price. It would also help address the inconsistencies with Jarrah and they could brand it all, something similar to the milk industry. (12)
- Having enough supply might be a challenge, we are seeming to get a great lot of interest - what if we do well and chew up more than anticipated. With our 'Real Good Honey' brand we didn't expect to be as successful. It was launched in December and people are loving it. We have our own label, marketing and Facebook page. What people get with that is a fully supportive marketing program and a massive library of consumer fronting stock images, access to celebrities who sit on the board so a fully supported product for the same price that they can get other stuff. It means they don't have to worry about it as we have the instore promotion and pre-launch activity sorted. We also send our scientist over to export markets to meet with pharmacists. It is about having the right people in the company. We have a lot here, if we do well which indications are – we set the business up based on a certain amount of tonnage. We can also mitigate the risk through other states as we are also undertaking R&D in other states on medicinal varieties with the potential to target so we can have more than just table honey. We want to stay away from Manuka. (14)
- One of the challenges with industry is getting them to decide what constitutes Jarrah or Marri or mono floral honey. You will never have 100% of one pollen source, once you overcome that and define it then it is feasible to defend that and market to that standard i.e. 75-80% of one floral source. (8)

Lack of collaboration

- The biggest issue is to build up the acceptance; we have an old industry and young leaders are coming in – it needs to demonstrate more working together. Beekeepers don't like to share what they are doing but it is about growing together and not being a secretive industry. It lacks collaboration but it is about moving forward and bring everyone together, and that is why BICWA has opened up membership to be inclusive of everyone and have an open door so we can move together as a unified industry with one voice. It is a great industry and the social licence is amazing, we now need to get together and go forward, forget the past. (5)
- We need more professionalism and unity we need one place where everyone can go to get their answers. We would love to work with beekeepers and apiarists; everyone's cards need to be on the table so they can do it collectively as one, they need to come together as the honey industry. If you look at the beverage industry, the Beverage Council oversees everything. They have a great structure and are very informative - we pay a fee to be part of that and then we have lots available at our fingertips when we have questions, they are very efficient. (7)

Working with stakeholders

- It is about being able to trust the WA industry are working through the national body (AHBIC) which is our key contact for research ideas etc., not working with us directly. We usually work with the national peak industry body more. The knowledge they are working closely with AHBIC would be helpful; use AHBIC to direct your resources towards the right issues and feed in the research ideas. (9)
- From an operational aspect it is getting everyone to work in the sandpit together, because we are a national body it is important, we work nationally. It is tough as WA is such a long way away, we would like to say talk to Qld, South Australia and NSW and Victoria. We talk regularly with those states and like to have that direct relationship as it helps everyone. We also do a lot of other stuff including the Levied Industry Capacity Building Program which is the Australian Institute for Company Directors Course where we offer it free for 20 people each year. We haven't had any WA people put their hand up; we did have 3 bee industry people last year across Australia. We have not had a single application from WA. I think we don't have a relationship with that side so much. Rob Manning is on our

panel but it only goes so far as I have to have that relationship as well. That is where an EO may be good to develop that relationship and then we can put their name or others on the list for the course. We also have other information for Associations like a group toolbox on how to run an Association, governance information and other tools. Once there is more of a relationship we can send more information out, at the moment I never hear anything back. (13)

Ignorance of legislation / fraudulent activity

• There is a complete lack of reporting or ignorance on having bees; they ignore not just our legislation but a whole bunch of legislation. If you jump on Gumtree you can buy as much honey as you want without the labelling and food regulation requirements. I tend to try to not over regulate or over influence industry as it is for them to take control of their future and I see my role as part regulator part service delivery and protection of industry rather than guide or direct industry. In terms of reporting AFB that is nonexistent and in terms of good communication with beekeepers that almost doesn't happen unless we call them. We are trying to become more relevant with them, there is a lot of history say with burning bee hives. I don't know how relevant beekeepers perceive us until there is a problem. We are seeing more communication out of the amateur world with those who have 1-5 hives but those 20 plus, they only call us when they need something. As an agency, we lack resources on the ground, as much as we would like communication and engagement we can't always follow up with tangible action and hence we lose them again because they see us as not relevant. It is important for DPIRD and industry to get beekeepers to better understand what we do and don't do; there is expectation they can call on government and they will fix it. We get so many inquiries to water down an issue that we have no authority on. There is confusion with the DBCA, chemical impacts, adulteration of honey, labelling of honey etc. We even get calls to cancel beekeeper registration status, when that is the Brands Office. We are regulation and biosecurity and have nothing to do with food, unless it breaches import conditions. We are the first port of call once a beekeeper has an issue and they are often disappointed we can't respond to them in the way they like. (6)

Ignorance of legislation / fraudulent activity Cont.

• Fraudulent activity in test results; we have been involved in a couple of cases overseas where outlets of Australian honey are claiming forged reports. We issue reports of data from us and the National Measurement Institute on letterheads and as signed copies. There have been reports in the Middle East of them photoshopped and values on those tampered with. Industry is aware of that and we have made Australian trade aware of it – but industry wasn't interested to hear from us or interested in pursuing it as far as I am aware. Industry members are disadvantaged, in this particular case there was one supplier that made themselves look better than what they were. If you are going to have a standard people need to comply by them and there needs to be a mechanism where there are penalties or some sort of sanction applied. The fraud was at the Middle East end of the equation not the Australian end. (8)

Research

- We need a unified standard and a point of contact. We have the best universities in the world and we work with the best honey in the world. We need more research funded by government into the bee industry, as it is one of the most lucrative industries in the world, if we took it to the next level. The industry needs more government support, research and development funding. We have one of the best products in the world but the rest of the world doesn't know about it. (7)
- For us the challenge is sustainability of our (ChemCentre) involvement – yes we can continue to do bits and pieces but we can only stay in that research area if it is large enough to provide the funding that is necessary to do that work. For us it needs to have continuity to it. We have been fortunate with our involvement with CRC but struggle to see how it will be sustainable further down the track. I am sure industry will be successful but our specific involvement in R&D is questionable. We can't really justify commercially staying in business if we are only getting 1 or 2 samples a week, we don't have enough volume in that area to continue to maintain techniques and personnel requirements. If industry approached us and pooled resources to do this testing it would give us surety that

- it may be viable. A similar thing was done for the Agricultural Lime Producers. Although we are government, we are not supported to subsidise industry, we need to make things work commercially and industry needs to be able to encourage members to submit samples at a certain time and if testing is needed outside that window then they pay a premium. (8)
- WA research is hard to sell as it is so focussed and not a big proportion of honey is produced in WA. The majority of commercial beekeepers are over east so it is hard to do research that is applicable to them but there is no reason if WA wants to do some research that is applicable to the rest of the beekeepers. All I see from the management side is that I am not sure who to talk to and it feels segmented. WA has great case studies which some other states could benefit from and likewise. There seems to be the great divide so it would be great to see everyone working together more. (13)

Pricing issues

- WA honey is too expensive, it is the price that drives us towards using a blend of imported and WA honey in our honey Greek yoghurt. With all the price increases at the moment, it would just be another hit, the price is the barrier. We couldn't change it to purely Australian honey because the price is too high, and what we have now is working and if we did change it, it would change the taste of our product. WA honey can be too expensive and there is not enough in WA. We have a large demand and WA can't fulfil that demand. (10)
- There are too many suppliers trying to drive price, it is good for us as retailers but it's not what industry needs or wants; they need to start putting value into the industry. We have 14 supermarkets and we want people to buy honey as an everyday staple so keep it simple and keep the price affordable as an everyday shelf price, there is too much price variability. (12)

Other

- The biggest issue is time, we don't have time to do everything we would like to do, I would like our team to do more work in the field with beekeepers and inspecting and engaging and regulatory work but unfortunately a lot of our field time is built into surveillance which is vital. We don't necessarily get to do the industry side as well as we would like. (6)
- With our product we are looking at a potential increase of 500%. We have 3 drinks in the range at the moment and also doing some R&D in hydrolyte replacements using freeze dried honey so we hope to have a fourth drink in the next 3-6 months. We currently use about 20,000kg a year. We use a honey broker and in future we will look for more product to fulfill our orders. We want to work with beekeepers to ramp up apiaries and increase their production. We are also focussing on the indigenous side
- and creating employment opportunities to grow the market. We need more apiarists, beekeepers and more honey. The redgum is not a problem, we need more hives out there. Some people are doing a great job, others only have 40-50 hives and it is about them scaling up. (7)
- As a business, we are pretty self-sufficient so we don't deal directly with the beekeepers. We haven't had any issues or challenges really. We get all of our product through one company which labels and packages it for us, under our own label which we then sell through particular supermarkets. Our consumers are happy with the product and we have had a 10% increase in honey sales since COVID. (11)



Question 6

Q6. Interviews with WA Beekeepers have identified the following as the key barriers for the WA bee, honey and pollination industry in the next five years.

Can you comment on 2 issues you think will impact on the industry, and do you have any suggestions?

- b) Biosecurity pests or diseases risk
- c) Development of export market
- d) Resource access and/or resource management
- e) Competition from imported honey and other by products
- f) Adulterated honey

As identified by beekeeper respondents the top five challenges for industry include biosecurity; development of the export market; resource access and/or management; competition from imported honey; and adulterated honey. Stakeholder respondents were questioned on these issues and shared similar concerns and offered their views on how to address them. Imported honey is viewed as a big challenge for industry as it provides competition for local honey; is available at a cheaper price; is a biosecurity risk; and as an inferior product it damages the market in the long term. While there is recognition that it is hard to stop imports and install trade barriers as someone will always want a cheaper honey, stakeholders believe it is about consumer education and awareness to divert them from purchasing imported honey. Industry advertising and marketing the story of WA or Australian honey will help address the issue. It is about promoting why Australian honey is important, the value of it, its clean and green status in terms of biosecurity, that it can be trusted and that it is the best honey in the world. This will all help to increase domestics sales and educate the consumer to support WA honey. It all comes back to a marketing campaign that will help promote what is a good honey and why they should purchase WA honey as opposed to imported honey.

It was also mentioned that imported honey needs to be labelled appropriately in terms of food standards, even if it is blended with Australian honey as it still not really an Australian product. There needs to be accountability and credibility for where the honey is coming from. Concern was raised about New Zealand honey imports and lack of testing due to an import agreement, and it was suggested there be more testing of imported honey in future and that the Australian government should review current import agreements.

Biosecurity is always a concern as it is a strategic advantage that industry can't afford to lose. Currently WA's image is based around being a clean and green state however there is potential for incursions. There is concern around the increasing number of hobbyist beekeepers who may not be across biosecurity issues and imported honey which also poses a risk. As raised by DPIRD, industry needs to report any breaches in either product on the shelf, imported gueens in the mail or used equipment to allow them to investigate and manage any biosecurity threats. Another issue raised was the need for additional funding to protect the industry as it is currently allocated on the number of hives so WA gets less than other states despite its size.

The development of the export market is also proving hard for industry and as mentioned by one stakeholder there is a lack of support for smaller businesses to accelerate and they are forced to take the risk and spend their own money, but given the right support could unlock more markets. While there is huge opportunity to target the export market and some funding may help open the door, it was mentioned that if the branding of the products is lacking and you can't demonstrate a niche product you won't be able to break into the market. Opportunities for industry include government support with involvement in promotional trade events, conferences, conversations, networks and funding grants from departments such as Austrade and DPIRD.

Adulterated honey is also a challenge for industry and as mentioned by a packer you can buy honey now that isn't honey but no one will risk their businesses to do so. There are checks and balances in place for imported honey where regular testing is conducted to make sure the label is correct. Technology developed by the CRC and ChemCentre is helping industry to address the issue through the WA honey library. However there needs to be widespread adoption of the technology that can prove the purity of honey, the type and provenance. The industry has built up a database that didn't previously exist that will provide a good defence against adulterated honey. With the CRC closing, BQUAL will apparently take the technology over. Education of consumers on both imported honey and adulterated honey will increase consumers' awareness of their purchasing decisions and their ability to trust Australian or WA honey.

With resource access and/ or resource management, it is about BICWA as the peak industry body engaging with the DBCA in terms of advocacy and lobbying as stakeholders believe that the resource will always be under pressure especially with the huge impact of fires and logging.

Biosecurity

- Biosecurity is always a concern, government is increasing spending on biosecurity. We have to acknowledge the fact there are a lot more amateur beekeepers at the moment and we need to ensure we stay on top of it. It is a strategic advantage we can't afford to lose – it comes back to one industry body to ensure biosecurity is the key focus across the whole industry for those with 1 or 500 hives and make sure the industry is addressing biosecurity. The commercial guys are always front and centre, but some amateurs are of concern. (1)
- Biosecurity inclusion of imported honey as a biosecurity risk. At the moment we are a clean state but the varroa mite is our biggest threat, not only for honey bees but also native bees. We need to keep up our biosecurity values and for DPIRD's biosecurity team to make sure ports are supported and observed. We are supported a bit by the national body AHBIC and Plant Health Australia in funding for biosecurity but as we have less hives than other states, we get less money even though WA has the biggest area to cover. We need additional funding to help us cover our vast state. (5)
- Biosecurity and potential incursion is a massive concern for our image and potential future even the way we keep bees, we are complacent and the whole of industry would have to adapt greatly should we get diseases like varroa. Industry would still be here but it would be a much bigger impost on beekeepers. With biosecurity industry needs to be aware of breaches, concerns about products on the shelf, importing queens or used equipment – they need to report and we will investigate reports to make sure they have met import conditions, which are set up to manage biosecurity threats. Industry may not like import conditions because they allow imported product. We do get lots of reports – we get a report of something occurring, we investigate it but with more resources we could do more though. Honey on the shelf is easy as we follow up with companies, imported queens is challenging as we require collection of evidence and it is "he said, she said". Postal products have had massive expansion and it poses massive risk to industry and there is not enough surveillance. Sometimes it is picked up but we suspect a lot more products not meeting import requirements are coming in i.e. beeswax, queen bees, packaged honey, pollen. We do contact out of state retailers to remind them not to send to WA without treatment. In the last month we have had 10-12 investigations. The real risk is with something arriving on purpose or inadvertently - it is always a struggle to buy queens in WA and amateurs will get them posted over from the east coast as they are cheaper. (6)

 Biosecurity has to be number one, we have all seen TV shows where honey bees are disappearing. It is more about keeping and protecting WA beekeepers to produce product to sell in our stores. In the past we possibly bought imported honey, if anything it would be New Zealand honey. We like to stick with WA wherever possible, it's not cheap - everyone is struggling with cost, honey is honey, and the costs go up and down, the last thing we want to do if we bought in imported honey, it would devalue the honey price again. (12)

Export Market

• There is a huge focus on the export market and improving that and I have pathways as to how to make it easier for beekeepers but at the moment at the government level there is no support for me to expand that outside the Export Market Development Grant. For me I would be wary of anything coming out of it. I spend my own money to figure out the export market and make it easier. I would love to see support for businesses taking risk and those that already exist rather than more money go to individual beekeepers, which I see is totally fragmented and highly ineffective. Wescobee was a collective, and they got bought out, the collective hasn't done its job so it needs to be done in a different way. It's not the best use of resources if you go back in history. I agree there is huge opportunity in the export market space and there is a huge amount of money to do it well, as a small business chipping away at the edges. Given the right support you could unlock that, part of it would be networks. I noticed recently that Cabinet had Japan week where Jarrah honey was on the menu, but I didn't hear anything about it. There are opportunities like this to have discussions and be in the room when they are focussed on export markets; it is about awareness of conferences and support to get into events with government departments and Austrade. It is difficult to navigate, I spoke to Austrade last week but they basically said because I don't make enough money they give me support, there are lots of small businesses then they can't provide support. It is a missed opportunity and there is a lack of support for smaller growing businesses to accelerate. I could sell part of the company to get funding. There is potential for more government support and to have the right conversations, it doesn't have to be all financial – networking and conversations and visibility as well and the right conversations. That's why an industry Executive Officer may be good, to network. (2)

- The development of export markets is a big one, Australia produces more honey than consumers will ever consume, we make more honey in Australia than we will sell. We will always be a net exporter of our product as well as Australian consumers are not going to pay the money that other consumers around the world are willing to pay for our product. We need to expand our export markets; when you get a lead into a country keep it flowing and continue to work in other areas. The Middle East holds honey to a high standard and see the health benefits and you can charge for that. Canada, the UK and America you may not get the same opportunity. (4)
- Export markets are an issue and especially if industry waited for BCIWA or AHBIC to get it together. Beekeepers are reaching out and seeking help from Austrade. DPIRD has grants but the current branding of products is not good, grants can open a door but if you can't demonstrate a niche product and a successful brand it won't work, even with good help to access markets. The distributor and buyers want successful brands. We also want to help as a company as it is all about marketing and beekeepers need a lot of help with marketing of their products to build a killer brand. (14)

Resource access / management

- Resource access as bee numbers increase that will always be under pressure and that is a DBCA issue. BICWA need to be more proactive with engagement. (1)
- Resource access fires and logging has a huge impact. The dialogue is changing but more is needed with regard to the Forest Management Plan. BICWA is involved as a key stakeholder, we see some movement. Fire regime is to really to protect lives and protect the forests as well. It requires lots of lobbying and advocacy going forward. (5)

Imported honey

- Competition from imported honey it comes back to industry advertising and marketing the story. What CRC has done with work around authenticity and the story around Australian honey and why it is important and disease control. There is no doubt we produce the best honey in the world and we need to get the story of our produce to consumers, and that will help increase domestic sales and export. (1)
- Imported honey is a risk to our industry and is a touchy subject. I don't believe we should stop free trade with the rest of the world because if someone wants to buy honey at \$2 and someone can afford it at \$5, we don't want to mark down Australian honey for \$2. There is always a place for cheaper product, and that is part of the reason industry should expand exports and work on it harder. There will always be honey available for the Australian consumers at whatever prices. Educate consumers that Australian honey is good and that they should buy Australian product. There are the same struggles as other industries in Australia but people do try to buy Australian wherever possible. It is about promotion of clean and green Australian honey. (4)
- Imported honey needs more testing and more regulations or a change or update of regulations. There is NZ honey coming in untested as we have an agreement and there is a risk of bringing in diseases which we have heard about but it is not proven. It is about keeping up testing and being able to test more imported honey and also for the Australian government to review the current import agreements. (5)
- Imported honey from our point of view it comes back to the consumer base, the quality of honey here is second to none in the world. The inferior product is damaging the honey market in the long term, and it needs to be appropriately labelled; testing it would identify it is not real honey and it would be labelled appropriately in terms of the food standards. You only blend 5% and still say it is an Australian product; that is crap. I personally wouldn't touch imported stuff as it affects the taste profile. People say they have vegan honey; well that is sugar syrup. It comes back to an advertising campaign and the need to educate people on what is honey and what is good honey – WA honey. It also comes back to biosecurity, I can't bring in honey from over east as it has to be pasteurised, but you can send it anywhere in the world without pasteurising. (7)

- There is room for imported honey but it needs to be classed as honey. We won't accept blended and there needs to be accountability and credibility for where it is coming from. (7)
- Imported honey is a big challenge and it can be easily sought at a cheaper price. I am not sure now but with import prices and freight costs which have gone through the roof, it could be helping WA honey. We are all about manufacturing and will look for a cheaper price to make money on our products which is the way it is; that's not great for WA or Australia. (10)
- Imported honey is shocking and we are about to attack this issue. There is an opportunity for it to be fully exploited through a marketing campaign that highlights the issues with imported honey. Highlighting it isn't good as it lowers prices for beekeepers as consumers are confused which one is the good honey. We can't stop it, but we can stop the consumer from buying imported honey through consumer education and awareness. Why would you buy it? Increase the awareness of overseas honey. 98% of the brands on the shelf are pretty good but there is a bit of uncertainty and Capilano was caught out in 2018 and it went rife. People start wondering what is in the honey – can I trust this? Marketing should be around which brands we can be friends with - this screams opportunity for AHV to fully exploit and make our brand lovable, it's a no brainer. (14)
- Education piece to address imported honey and adulterated honey; we can't compete with the price of imported honey. I am against trade barriers; the only way is education and also promotion about greenhouse reduction with buying WA honey as opposed to imported honey. It comes back to education – if you go to food manufacturers, people want any honey, our price is too high again this is historically. Work with packers – one price for all types of honey, segment honey in a better way and that will result in a better outcome for beekeepers i.e. honey from canola crops (sprayed with chemicals but paid pollination) gets a 30% price reduction compared to native honey from bushland. Native land which is responsibly managed shouldn't be the same price. Packers combine the two, it should be broken up and tie that in with education so consumers can see it on the shelf and will choose the chemical free honey over the other. Once consumers are aware some will be price focused, those are not buying Australian honey compared to the imported clover honey. Because they are price sensitive, it is better to educate the ones in the middle and get the facts out there. (2)

Adulterated honey

- Adulterated honey is always a concern but technology developed by CRC and ChemCentre and WA Honey Library will help to address that. The traceability technology helps identify those issues and get industry to sign on to that and it will reduce that. There needs to be widespread adoption of the technology and it will confirm export honey and the end buyer can confirm its provenance. (1)
- Adulteration is an issue, I don't believe it is a big issue in Australia, it could be. We can buy honey now that's not honey but no one will risk their business to do so. I don't see it as a big risk as you can check any honey coming into the country. We just need to make sure all honey is on a level playing field. Adulterated honey already has checks and balances coming in from overseas and we still find stuff on the shelves. AHBIC will send honey off for testing to make sure the label is correct. We work together as an industry to build a database of all Australian honeys, nothing existed before. If you sent in a sample to get tested for adulteration there was nothing to test against, and a lot of times it came back as adulterated honey. Over the last 3 years honey samples have been collected from all over Australia by the CRC to build a database and that provides a good defence against adulterated honey. With the CRC closing down that database is owned by BQUAL which means it will continue on in industry. Testing proves the purity of honey and the type of honey i.e. Marri/ Jarrah etc. and provenance. (4)
- Adulterated honey there is real concern in terms of total price for the product, it comes back to the consumer and what are they willing to pay and what is their expectation of the product. The general feel in current economics and the WA value of local honey but there is always a component out there who will buy cheap stuff, you also run a risk of overheating honey prices which might drive them towards cheaper product so a balance has to be found and addressed. Everyone is trying to make a dollar; the wholesale market largely regulates that reasonably well through supply and demand. Now we have more wholesalers and exporters in the market place - it's a sales market in the current environment. If the economic environment tightens, then they might need to be more realistic about pricing. (6)

Other

- There is work being funded in those areas by Agrifutures; a lot of project work with Small Hive Bettle and recently a report was completed about resources and access to public lands. What industry needs to do is take this research and drive it with government. We are nonpolitical but it is up to industry to use that research/information in their conversations with government. Government will take industry more seriously if they are a more cohesive industry to deal with. (9)
- There is always competition out there, you need to market the product for people to value it, you need to sell the benefits of the product. We will aways carry WA honey when available and when we can buy it. We run that at a lower margin than other products. We want to push it as we are a WA company. I am not really across what is happening in the industry as I don't have time to look into it and be across how it works and why it works this way. If we can't get WA product, we look to blend it with stuff from over east. For the last 5 years there's been a lot of shortages in WA and a lot of price increases coming through with WA honey. From a retailer's perspective, I see a lot of producers competing against each other. It will never go away, it is about education. They are too worried about competition and rubbishing it instead of building up what they are selling, it is more of a smear campaign. Rather than build up their image, they would rather destroy their image. I have seen it in a lot of industries involved in the retail sector, a lot of people try to destroy branding rather than concentrate on building the branding. (3)
- Other bee products are underdone in terms of the non-honey aspect i.e. bee venom, propolis and other products may well provide an income source for some producers and be the difference between a good and bad year. Bee venom – there are some good funding sources in the medical health space, including an announcement in the budget recently. Australia is punching above its weight in medical research so there is an untapped opportunity for industry to pursue that. (8)
- Better relationships between amateurs and professional beekeepers – they should be on the same page and industry could be assisting amateurs to do things to ensure it doesn't have an adverse impact on industry - it's about education and biosecurity. (8)
- Not really aware of the industry issues. (11)

Question 7

Q7. Reporting of production figures – currently there is little data available, how can industry capture this information?

Stakeholders believe that production figures should be captured in a number of ways either through packers; quality assurance programs; industry collection of data; or export data.

Packers were thought to be one of the most effective ways to access data as they capture their sales on the types of honey and volume along with their exports and imports. One packer has developed an App for their beekeeper suppliers, and they are about making their data more transparent for industry. As stated, 'that is going to be one of our strengths in being radically transparent as that is what is missing in the industry, and we are willing to share with industry'.

Quality Assurance programs also capture production data to some degree through programs like BQUAL for commercials and BTrace for smaller beekeepers. While industry would have to request the data, there could be issues with data sharing and the data is limited as not all beekeepers are a part of a QA program.

An opportunity for industry to become more transparent is through development of a funded project to collate production data and a mechanism to collect it. It could create a simple data capture system that could be run by BICWA that allows for self-reporting and which beekeepers complete voluntarily and anonymously at the end of the year. Accuracy and honesty would be an issue, along with the variables within industry.

According to a stakeholder, data also provides an opportunity for benchmarking amongst beekeepers which has proved beneficial for the grains and dairy industries. BICWA could provide data as an incentive for members to gauge their businesses success and compare their performance to others. There is an opportunity to collect data on how much honey is collected from different floral species and pollination crops, DBCA sites versus private sites, flow hives etc. A private consultancy firm could also be engaged to collect data from a survey and do an analysis and extrapolate the data.

Data could be collected through current systems like the Agrifutures Size and Scope report, last done in February 2021 and about to be done again, or the purchase of data through companies like Nielson. It was mentioned that ABARES data is limited and poor.

The national honey levy (4.6c/kg) provides another option, but it is limited to those that produce over 1500kg and doesn't capture the local market. Other ideas include the DBCA App that has been developed which could capture production data but once again is limited to only those beekeepers who use DBCA apiary sites, and the hive registration process, although not all hives are registered. Data could also be collected through the APC FFS. Industry could approach DPIRD to determine if this is an option and if they can share summarised data, rather than individual data.

Concern was raised around the issue of industry being secretive and beekeepers' reluctance to share information. It was also raised that the beekeeping industry is a victim of poor data keeping and that investors want data. It was mentioned it is important to get buy in from beekeepers and let them know the importance of honest reporting and sell the benefits of the collection of industry data.

Q7 Cont.

Packers

- I would lean towards packers that have that information, that would be most effective. (2)
- Hive and Wellness captures sales on the types of honey and volume in terms of how much is from WA and imported. (10)
- It comes down to packers, we have developed technology for beekeepers so they can have an APP in the hand that provides data for them. It is difficult when you have mono floral honey's etc. - what we will be able to do as a company? We have this many tonnes produced of this medicinal level of honey which will give us a rough guide. We are making it transparent for everyone to see, we want to be transparent as to how much we pay, how much we sell and have that as one of our strengths in being radically transparent as that is what is missing in the industry. We are willing to share with industry. (14)

QA programs

- It could be added as an adjunct to BQual or through something where you encourage all beekeepers to report and you get data through that. (2)
- I don't know how to capture if, if we have a quality system in place in an ideal world where everyone producing honey as soon as they sell it or gift it would get recorded. If they sign up to a QA program it would be easy like Btrace and BQual which can record everything including production data and also gives regulations into honey labelling and provide the right information to consumers. As an industry we need to ask for information back to industry groups. Btrace is more affordable for amateurs and QA audits are now done online which costs less. If industry can access information from QA programs, we can get the data. It is recommended that every beekeeper keeps records but they don't need to share it. (5)
- Quality Assurance programs have to be valuable back to the beekeeper for them to put a sticker or logo on the label. Just because you have BQUAL doesn't mean you get paid more. The consumer doesn't value the trade mark. A lot of marketing needs to be done to value add the trademark before beekeepers see value in being a part of a QA program. QA systems could collect the production data but there would be issues with data sharing that, AHBIC would have that knowledge. (6)

Industry

- Benchmarking is done very well in the grains and dairy industries. Something like benchmarking and financial management comes a way to value add to the story that if you join BICWA, you get access to data and share data within BICWA. It is a big culture change for beekeepers to share data but they now need to if they want to progress industry forward – having some of that data available to allow benchmarking is hugely valuable. The dairy industry didn't have it before; people are able to rate themselves on production data in terms of productivity, efficiency and profitability. There is a role for BICWA and their membership for communication and an incentive to do it that way, if you sign on as a commercial producer along with BQUAL you have access to data to benchmark yourself against. The data can be anonymous but allow you to see where you sit. Otherwise, you need to get a consultancy firm to collect the data from a survey and do an analysis. Sales data is the quickest and most efficient as you identify the top 20 producers and benchmark them, then you have rough estimates. With a benchmarking project if we know there is 60-70 commercial producers then you can extrapolate that data. With the DPIRD hive registration process, it could be collected through that but we got a complex answer before - it is not a straightforward process. The reason is something to do with privacy and data collection. It needs to be worked through and was getting too hard. It doesn't stop us from looking into it in the future. (1)
- It would be great to have that data and understand how much honey comes from crops; paid pollination versus how much DBCA property versus private farmland and flow hives etc. You need to make it a simple data capture system that is run by BICWA, go with self-reporting and get them to complete it voluntarily at the end of the year. You will always get those that say they don't sell honey commercially and that sell it for cash. (2)

Q7 Cont.

Industry Cont.

 There used to be a good one in place with Wescobee where people sent honey in. It was easy to get numbers because they had a large pool of beekeepers. The only way is you can survey beekeepers but not everyone will answer it, the larger it is the more accurate it will be and then you make assumptions. There are so many variables in whatever you ask - like does a beekeeper shift around? A self reporting anonymous survey would be good with the different groups of beekeepers (in terms of hives) and then determine what the yearly production is – that will give you a basic per hive production across the state. You also have registrations and if you know that only 20% of beekeepers reply then you can make the assumption on how much honey but it will never be correct. You need to get buy in from beekeepers and let them know why you need it to be correct and sell the benefits to them otherwise what is the point in them telling the truth? (4)

Agrifutures report

- The Agrifutures Size and Scope Report (last completed February 2021) has a whole bunch of formulas behind it – it is really hard to find data and there are assumptions behind it. We are looking at doing it again and send letters out to all the states to see if they are interested and would they like to contribute? Every time we spend a dollar on R&D, we get 50 cents back from Federal Government so we are a pretty good avenue for research because we get matching funds from state and federal governments. Our ROI is pretty good. We'd like to do it again as now we have set it all up it won't be as expensive and ours is as good as it gets. ABARES data is ridiculous and there is no mechanism available because it's state based and guite convoluted. The issue is that beekeepers don't give you information and you need to convince them to do it, that is why we use people that are known, and they use the formulae and also extrapolate the data. (13)
- Agrifutures did a snapshot of industry and captured all the data possible. You are limited by what is collected by ABARES. There is data on production in relation to the levy, but there is a lot of holes in the system where a lot of honey is not counted in terms of local markets, hobby beekeepers. If industry agrees to get data, it could be funded as a project. Another issue industry has to get over is being secretive and become more transparent. We have a project we fund - Hort Stats that we do every year which collates data so it is possible. (9)

Other ideas

- Export data caught at the time of export; there is some data based on beekeeping that is reported through the National levy that can be worked backwards but that only works for 55 of our 4000 beekeepers who produce more than 1500kg. It doesn't capture those that sell locally or produce under that. It has been bandied around for use of government sites, the amount of honey produced off government or apiary sites – so that it will give industry an understanding of their resource and government a better understanding of that resource. The DBCA has developed an App to help beekeepers to meet their obligations and allow for reporting on moving on and off sites. The old paper system was poorly used. Perhaps the App could capture production data. But that would only get the 100 top beekeepers and then you are still missing the middle and amateurs on what is produced and sold. Otherwise perhaps through QA programs like BQUAL. With the hive registration and brand process, we are going online with payments (launch in August). There could be an opportunity but industry would need to ask questions of the brands group. Annually beekeepers have to submit the APC FFS so that is a great opportunity to potentially list production – but producers may make stuff up. Capturing data on behalf of the APC and then how the information is used or summarised is the issue. We could share summarised data but not individual data – industry could make an inquiry to the agency but is hasn't been raised yet, not that I am aware of. (6)
- It all comes back to say the registration board, they need to follow up on the production data. They can work with the Universities too. (7)
- You would have to buy data through Nielson or one of the big data companies, that is the only way to get information. (12)
- No idea, as I'm not fully aware how industry operates. (3)
- Not specifically, there is still a veil of secrecy around production figures. There is work happening at the moment through CRC around smarter hives that continue to measure weight and put back to an industry source that could be developed. But at the end of the day it still comes to trust and transparency in industry itself. (8)
- No, we are self- sufficient so don't have any ideas.(11)
- The beekeeping industry is a victim of poor data keeping. Investors want data so we want to start capturing our own data now. Someone needs to start developing data sets. You can't use the BQUAL system as only very few people have that quality control system in place – you can get some data through that but if you look at 90% of beekeepers, they don't have it as they are not big enough (14)



Q8. Do you have other feedback you would like to contribute to build the industry's strategic plan?

- Our beverages are all based on honey they are energy drinks and we also use indigenous ingredients like Kakadu plum and Sea cucumber. We are in negotiation with Japan and- the US and if it comes to fruition, it will turn the tap really quick. We use 8% of honey in all of our beverages. (7)
- I wouldn't have used honey in our beverages if I didn't believe in it – it is an all-natural product 100% Australian and not chemical laden, no processed sugar etc. We promote the health benefits – honey is the key benefit because of its anti-inflammatory and anti-bacterial properties, no processed sugar, and it is a natural sweetener so the body processes it differently. We are 100% healthy. (7)
- With the strategic plan, I am more than happy if they would like an independent view to have a proof read of it and give some thoughts. I have just finalised one for the thoroughbred horse industry so am happy to provide thoughts or gueries around it. They need to make it strategic as this can also become a funding prospectus. Make it exciting and show that WA is moving along, like an encouragement piece and include success stories as well. Make it interactive

for investors, as it could become a lobbying document to take to government and cover where they plan to head, what they have done. I look at other Strategic Plans and they are pretty operational based. You must have significant buy in from stakeholders - they have to be believers and get them on the bandwagon going to the same church and believing in the gospel of the WA honey. It will give you something to aspire to but also guides you. Good examples are the new export fodder or new rice plans on the Agrifutures website. Agrifutures research priorities in their 5 year plan - technology, capacity, nutrition, pest and disease, market and pollination. Agrifutures is about to publish the Levy Industries Research Compendium summary of all research funded by the honey levy (release in June 2022). Industry could use that as another bible to reflect on the research that has already been done – and when looking at future projects. Determine what is different to what has been done. We seem to try and reinvent the wheel a lot in research so the first questions researchers will be asking is – how is this different to what has been done, what has changed and why are you doing it. (13)



The Authors

Agknowledge®

Agknowledge® is a small company providing strategic management advice to a range of agribusiness companies and farming enterprises across Australia. Agknowledge® principals Peter Cooke and Nicol Taylor work nationally from a base in Western Australia, and combined they have over 65 years of involvement in agribusiness at all levels from strategic planning for agribusiness companies, government and industry policy, research, succession planning and business development.

Agknowledge® has extensive experience of working closely with agribusinesses to assist in the development of individual business units and overall group strategy. Agknowledge® has a reputation for bringing clarity and depth of thinking to complex situations and for identifying viable strategic pathways that will build value and stand the test of time.

Our advice and contribution is informed by:

- Extensive specialist knowledge of key industry sectors and the issues that are driving operational and strategic change, a significant first-hand experience of working in roles with responsibility for strategic development, and the practical factors that may constrain the implementation of strategic initiatives.
- Government strategy development experience: Agknowledge® has completed many successful strategy and innovation engagements with government. We also bring practical experience of how to develop strategy in the government context.
- Industry and infrastructure experience. We draw on our team's strong knowledge of regional industries as well as our numerous engagements in conducting industry analysis and building strategic business cases. Our robust quantitative analysis supports the qualitative perspectives, underpinned by strong analytical capabilities.

Julia Ashby has worked with **Ag**knowledge® since 2014 conducting one on one industry interviews on topics including: inland aquaculture opportunities, the value of grower groups, citrus industry consumer research, surveillance needs for invasive species, consultation for the WA Wild Dog Action Plan, and risk management in the Western Rock Lobster industry.

Julia has been involved in the agriculture industry in a professional capacity for more than 25 years. With a Bachelor of Business in Agriculture Julia is a former ABC Reporter who has also worked with grower groups in a communications role in Mingenew and Esperance. Julia took up the reins as the first employee for the South East Premium Wheat Growers' Association, based in the Esperance Port Zone of WA. Over thirteen years with SEPWA Julia worked as sponsorship officer, group development officer and media officer. Julia now runs a communications consultancy business where she provides her media and communications expertise to a range of agribusiness, industries, farmers and agricultural projects.

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