Same same, but different: creating positive futures for Australian animal agriculture

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Introduction

Australia's animal agriculture industries are a major contributor to Australia's GDP, a significant earner of export revenue and a major employer both on-farm and indirectly. They have nourished our nation by providing food and fibre to generations of Australians and occupy an important place in our nation's history. With seemingly endless headlines like "why Australians are turning away from meat" (Wahlquist, 2019) and "the best way to save the planet: drop meat and dairy" (Monbiot, 2019), it is easy to feel despondent about the future of animal agriculture in Australia. Whether or not you agree with those headlines, it is impossible and unwise to ignore them. Instead of feeling angry or overwhelmed or defensive, it can be helpful to understand the bigger picture context in which they occur (both philosophically and over time), and to keep that in perspective. Though while perspective can be comforting, its value lies not in justifying a status quo, but in revealing potential futures – and the choices and opportunities we have to create them. Australia's animal agriculture industries are already creating new futures.

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By seeking to understand and accept societal interest in how food is produced, by reducing environmental impacts, mitigating climate change risks, making animal welfare improvements, reducing waste, adapting business models,

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adopting digital technologies, growing export markets, finding supply chain efficiencies or sharing their story with consumers, thousands of farmers (and the businesses and researchers that support them) are already doing things differently. The solutions to animal agriculture's challenges are as many and as varied as the individuals and the places in which they farm, and the consumers who buy their products. Policy-makers can help to create positive futures by ensuring regulatory frameworks, support services and investments in innovation and infrastructure that support the widest possible array of solutions – high-tech or low-tech, large or small, free-range or indoors, organic or otherwise – as long as environmental footprints are minimised, food is safe, animals are healthy and have their needs met, and consumer trust is maintained. There are myriad ways to achieve these outcomes, in all types of production systems. Good policy needs to be able to accommodate and support all of them. It would be foolish to suggest this will be easy, or that the future holds only calm sailing across prosperous waters for everyone. Even when things are going right, there is never a shortage of headlines to suggest otherwise (Funnell, 2019). But if a bright future starts with smart passionate people with their eyes wide open, Australia's animal agriculture industries have those in abundance.

The cycle of debate

Despite the apparent shrillness of daily headlines, alarm about the ecological expense of animal source foods is nothing new. Food historian Warren Belasco traces a history of debates about food futures, revealing the remarkable persistence of concerns about meat in particular – starting with Socrates over 2,400 years ago, who "argued that domesticated meat's lavish land requirements inevitably lead to territorial expansion and war with neighbours" (Belasco, 2006, p.8). Through the 18th and 19th centuries, arguments were often framed in terms of the number of people able to be fed on vegetarian diets versus animal-centred diets. These Malthusian-style concerns about overpopulation leading to food scarcity persist today (some say we are currently in a 'third wave of – malthusianism'– Godfray, 2019), but according to Belasco, so are similarly persistent themes of egalitarianism (enough food is produced, it just needs to be better distributed) and cornucopianism (humanity's ingenuity is limitless, we will always be able to innovate our way out of trouble). And so the cycle of debate continues.

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The rapid rise of alternative protein markets also seems astounding, given the amount of shelf space and menu items given over to new plant-based products just in the last year, though it might not surprise some who saw it coming 50 or 100 years ago. Winston Churchill in 1932 for example, "envisioned synthetic foods, concocted from 'microbes' in 'vast cellars' and 'practically indistinguishable' from the natural variety," and in 1953, the idea of synthetic foods was framed "as a conservationist reform." (Belasco 2006, pp. 37–44) According to AT Kearney (Gerhardt et al., 2019), cultured meat and vegan meat replacements are expected to account for more than half of a US$1.8 trillion global meat market by 2040. For perspective, it may be useful to consider the experience of Australian wool growers since the availability of synthetic fibres. A wool history review by Australian Bureau of Agricultural and Resource Economics (ABARES) in 2003 said that, despite the overall reduced demand for wool as a result of synthetic fibre competition, "most organisations in the textile industry still view wool as one of the most important apparel fibres and one which will always have a future in the textile industry" (ABARES, 2003). While there may be less wool growers overall today than in 1950, in its current Strategic Plan, Australian Wool Innovation notes:

> "[R]ecent years have been very positive for Australian woolgrowers. The wool market has seen extraordinary heights which have been driven by global demand for our wool – it's a fibre desired by processors, retailers and customers."
> (Australian Wool Innovation, 2019, p.5)

Meat and Livestock Australia (MLA) CEO Jason Strong's recent characterisation of alternative proteins as both risk and opportunity for meat and livestock producers suggests an expectation that meat could follow a similar path. He suggests focusing on the opportunity to differentiate on the basis of meat's natural authenticity:

> "[T]he beef industry had an opportunity with the increase in alternative proteins in being able to state beef's only content is "beef", rather than a long list of chemical ingredients." (Sim, 2019)

The importance of maintaining consumer trust is also not new to agriculture. In an examination of the moral philosophies underpinning modern agricultural debates, Paul Thompson (2012) notes that while agrarian lifestyles in ancient Greece "aligned personal and social interests" that gave agriculture a moral significance beyond other forms of commerce – because of the "honesty and mutual respect" required by weekly food provisioning – this was eroded by the advent of Athens as a trading state (Thompson, 2012, p.227). Today, we understand more about the need to maintain trust, even across lengthy and complicated global supply chains and across disparate food cultural contexts, what is at stake when that trust is lost, and how to value and preserve that trust as a commercial asset. Modern farmers markets are one way some food producers are seeking to re-establish that trust and connection. Sophisticated supply chain traceability technology is another.

Sorting through complexity

These historical perspectives are not intended to suggest a 'do nothing' or 'business as usual' approach, but to sharpen our sights on what exactly is different now, to be clear about why animal agriculture is worthy of a significant future, and to help us sort through the complexities of creating futures we can be proud of. First, what we know now that was not known 50 or 100 years ago are the specific mechanisms through which agriculture contributes to climate change, and the very real impacts climate change has on our farming systems. We also know a lot more about animal health and welfare – what animals need in terms of nutrition to keep their immune systems strong and their feed efficiency optimal, and how they can express natural behaviours and have 'a life worth living' (Guesgen, 2018).

The worthiness of animal agriculture – especially animal source foods – is most vividly apparent in countries and communities where animals provide a vital source of nutrition for women and children, and income and empowerment for those seeking escape from poverty. Assistant Director of the International Livestock Research Institute Shirley Tarawali notes that "livestock represent not simply commodities to be consumed but 'living assets', the fundamental sources of food, nutrition, livelihoods, jobs, incomes, savings and much more." (Tarawali, 2018). Even in non-resource-limited settings, the nutrient density and bioavailability of animal source foods is unrivalled by vegan options, with the German Nutrition Society recommending children (and some women) not follow vegan diets because of their nutritional inadequacy: "with a pure plant-based diet, it is difficult or impossible to attain an adequate supply of some nutrients" (Richter, 2019). Beyond the case for nutrition, animal agriculture in Australia is worth more than $30 billion annually (Ferguson & Colditz, 2019), providing employment and export revenue that benefits all Australian taxpayers through individual and company taxes that fund public infrastructure and community services. In addition, CSIRO Researcher Ian Colditz notes the "psychosocial co-dependencies between humans and farm animals" (Ferguson & Colditz, 2019). There is a lot of recent popular commentary about the bonds between humans and companion animals. The psychosocial benefits of farm animals is an area worthy of wider acknowledgement, and further research.

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The imperative to respond to current contexts is not to suggest that there aren't some criticisms levelled at animal agriculture that are unfounded, or represents a tiny minority of farms or practices, which makes the sorting of complexity all the more difficult. The challenge is to look dispassionately at the detail and science, examine the motivations of the loudest voices, and to understand the nuances of what society and consumers really want and how they are responding to what they hear. Recent reporting of the IPCC Report on Land Use is a good example of the need to look beyond the headlines. The Report said: "animal-sourced food produced in resilient, sustainable and low-GHG emission systems present major opportunities for adaptation and mitigation while generating significant co-benefits in terms of human health" (IPCC, 2019). Headlines included "Eat less meat to save the Earth, urges UN" (Webster, 2019). Similarly, while the EAT Lancet Report in January noted that "diets must be carefully considered in each context and within local and regional realities," (Willett et al., 2019), headlines included "[S]ave the planet and lives by eating less meat, more vegetables" (Fox, 2019). The challenge of communicating science in a compelling way without losing important scientific context isn't a problem unique to commentary about food and agriculture (Aly & Champion, 2019). Nor is it likely to get any easier. It is simply important to acknowledge, and to temper our policy responses to such headlines.

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Creating positive futures

Creating positive futures for Australian animal agriculture industries starts with these perspectives about why animal agriculture matters, and a willingness to understand and respond to the constantly changing contexts in which animal agriculture operates. Evidence of such willingness is not scarce. The red meat sector's commitment to become carbon neutral by 2030 is a great example of the sector's acknowledgement of its contribution to climate change and the need to mitigate it, and how addressing such critical issues also helps to maintain consumer trust – irrespective of how much you agree with the specific calculations of the degree of livestock's contribution. Similarly the Drought Future Fund will support more positive and resilient futures for animal agriculture. Dairy Australia's now well established Sustainability Framework is another example of looking ahead and setting up a process for continuous improvement and transparency to create practice change by farmers, and to maintain consumer trust. The pork industry's commitment to become sow stall free is another example. Concerns were raised and the industry engaged science to inform changes so as to address concerns while also ensuring the welfare of piglets, the capacities for system and practice changes, and that consumer trust benefits for the industry were realised. In doing so, the pork industry's response to consumer concerns about sow welfare is also good for business.

In addition to these, there are hundreds of stories about new technologies and approaches that support animal welfare, reduce the emissions intensity of animal production, maintain animal production alongside ecological conservation, and offer supply chain transparency to build consumer trust. Examples include chicken welfare monitoring via drone-mounted camera technology, internal sensors that detect the onset of calving in animals in remote areas to prevent mortalities, feed supplements that reduce rumen methane, the Bullo River Station partnership with the Australian Wildlife Conservancy, and the Eggs Australia and CSIRO's consumer attitudes research project (Various sources, 2019).

One particular challenge is acknowledging some of the environmental benefits and animal health and welfare advantages (in addition to superior productivity) of large-scale intensive

livestock production systems, just as much as the natural beauty and sustainability of small, free-range, organic or ecologically integrated farms. Undeniably, industrial farm systems need to continue to reduce their environmental footprint and to improve animal welfare, but the resource inefficiencies of organic farming, or the higher mortality rates of free-range systems are often overlooked. Paul Thompson notes that sometimes "the possibility that desperately poor farmers or organic growers might collectively engage in exploitative destruction of nature never comes up" (Thompson, 2012, p. 217). Similarly, Mathew Evans (2019) describes the degree of animal suffering involved in the production of plant-based foods in his recent book *On Eating Meat*. These insights are counter-intuitive to currently popular narratives about food system sustainability and vegetarianism. Creating positive futures for Australian agricultural industries requires an ability to talk positively about all the different ways we can farm animals for food and fibre without destroying the environment or causing animal suffering, and the policies that are needed to enable them. As MLA Chief Marketing Officer Lisa Sharp has noted:

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> "[C]onsumers want to feel they've made a good choice… for the livestock industry it largely means the consumer wants to make a choice that's 'good for the animal, good for the environment and good for me'."
> (MLA, 2019)

This shouldn't default to mean one production system over another, or one diet ever another. Currently for example, it is assumed that free-range eggs offer better food safety and nutritional composition (Bray & Ankeney, 2017). These kind of assumptions could be doing us (and animals) a disservice by reducing the diversity of production system options available to produce food within constantly changing environmental conditions.

Conclusion

Livestock industries will continue to make significant economic and social contributions to Australia for many years to come. As current challenges are solved, or evolve into new challenges, the cycle of debate about animal source foods will continue, as will the influence of many other complex issues with which animal agriculture intersects – such as foreign investment, energy security, transport infrastructure, biosecurity, digital connectivity, labour, governance of water resources, and geopolitical trade disruptions.

It is impossible to conceive of, and be prepared for, every future challenge or opportunity. We might therefore best equip ourselves for those many futures by constantly striving to improve the lives of the animals in our care, and expecting others in our industry to do the same, by constantly reducing our environmental footprints, by seizing every opportunity for diversity (from women in leadership, to production system diversity, adoption of innovation, and diversity of export markets), and by always listening and connecting beyond animal agriculture, whether to consumers or communities, shareholders or activists, supply chain partners or employees.

Two specific actions would help to support these imperatives. First, the establishment of a regular and permanent process for understanding and engaging with stakeholders, especially consumers. Too often this work is project-based, or commodity-specific, or subject to annual budget cycles, or produces insights that go unheeded, or is left to reside with specific individuals who move jobs and take corporate knowledge with them. It would not need to add new layers of programs or bureaucracy. It could seek to connect existing programs, people, insights and mechanisms to find our common ground, to help articulate and demonstrate shared values, and to continually reinforce the strategic importance of ongoing engagement and building trust.

The second specific action is the strengthening of digitisation and farm-to-table supply chain traceability systems. Monitoring, analysing and reporting farm-based data (including about animal welfare and environmental parameters)

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supports management decision-making for improved efficiency and profitability. It also enables transparency to build consumer trust in farm practices. Extending that improved capability through processing, wholesaling and retailing would support greater efficiency and productivity, as well as accountability on questions of animal welfare and environmental stewardship. Although already sophisticated by global standards, greater technical capacity, broader scope and stronger cultures of practice to use these systems more effectively will serve Australian futures well.

Although it is useful to look at a bigger picture and a shared future, Warren Belasco also reminds us that "life is always lived locally, on the ground, day to day, with great differences, even among neighbours…There are as many futures as there are people" (Belasco, 2006, p. 89). This is reflected in a recent comment by ANZ's Head of Agribusiness Mark Bennett about Australian sheep farming:

> "While I see some tough stuff, I hear from people who have been in farming a long time who wish they were 30 years old all over again, given where farming is and where the future could go."
> (Tasker, 2019).

Positive futures are already here.

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