

Challenges for Organic Agriculture in Australia: Getting a 'Fair Go'

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Abstract: Concerns in Australia about agriculture and the environment have triggered calls for sustainable agricultural practices, and organic farming is a widely promoted option for addressing this need. The Australian organic sector has tripled since the 1990s, but has not attracted strong support for industry development funding. This paper discusses how organic farming may or may not have had a 'fair go' in Australia, especially in terms of government support. Support for organic agriculture has been inconsistent over time, partly due to the hands-off approach of governments, but also due to the lack of awareness among decision makers and agricultural professionals of the potential of organic systems. For some sectors, funding is lower than levies paid to government by organic producers. Industry disunity hinders the ability or desire of government to assist, further thwarting the chance of a 'fair go'. Despite strong commercial growth, supply remains stagnant in some sectors and demand is being met through imports. The current regulatory system, centred around certification standards, still causes some confusion among producers and consumers. The road may still be rockier for organic agriculture in Australia than for other parts of the developed world in achieving its full potential.

1. Introduction: The Challenge of Sustainable Food Production

According to Australia's latest State of the Environment Report in 2011, the country faces environmental conditions that are poor or subject to deterioration: Ongoing problems include soil salinity and erosion, acidity, invasive (non-endemic) species and the loss of soil carbon, particularly in rural parts of the country (see Hatton et al.). Furthermore, inland water systems have been altered to the extent that providing sufficient freshwater supply to meet the population's needs will become increasingly difficult. The environmental pressures of agriculture are severe in Australia, particularly concerning land clearing and degradation, water resource use and greenhouse gas emissions (see Trewin; Wood et al.). In this context, sustainable agricultural practices are needed to mitigate existing problems and balance food security and the environment (see UN).¹ 'Business as usual' would put Australia's future generations in a position in which they face an unjust availability of natural and environmentally sustainable resources and opportunities to locally produce enough food for a healthy lifestyle. Some improvements in farm management have taken place over recent decades, including e.g. minimum tillage (see Kirkegaard et al.) or contributions to movements like the Landcare programme (see Curtis and de Lacy), however uptake has not been even (see Raymond and Brown).

The 'fair go' is considered one of the most important values in Australian society (see Herscovitch). It may refer to giving somebody or something a fair, reasonable chance

¹ Food Security in Australia has been under some scrutiny in recent academic works, e.g. in an edited volume by Farmar-Bowers et al., 2013.

to achieve or complete something, or prove their capabilities. As one alternative farming system, organic agriculture has already proven itself to some extent in Australia: The profile of and sales from this sector are increasing each year, and it is now widely recognised (and debated) as a ‘sustainable farming system’, with strong consumer demand (see Willer et al.). We argue that strengthening and expanding organic agriculture further is one means of thinking forward and tackling the explained challenges future generations (may) have to face. Simply put, giving the organic sector a ‘fair go’ may contribute to a ‘fair go’ for environmental justice and hence the health and prosperity of Australia’s future population. The aim of this article is thus to explore in more detail the opportunities and challenges of organic agriculture in Australia, and discuss how it may or may not have a ‘fair go’ in Australia. This approach can highlight possible unevenness in the allocation of resources, commercial opportunities and privileges in society. The organics sector is a good example of how power relationships, policy (making) and general economic agendas set by governments can limit a sector’s opportunities for growth.

It has been suggested that organic agriculture may be a suitable pathway to reach long-term sustainability goals. On a global scale, there is some evidence that this is in fact the case (see Bernzen). It has been shown to be more resilient to drought and other weather extremes (see Lotter et al.; Pimentel et al.), resulting in higher yields under harsh conditions (see Badgley et al.; Delate et al.; Rodale Institute). Other authors argue that one major advantage over conventional farming practices is that it rejects costly chemical and toxic inputs, as well as having very low off-farm impact (see Reganold et al.; Mäder et al.; Pimentel et al.; Wood et al.).

The little research available on the performance of organic agriculture in the Australian context supports these positive findings (see Wells et al.; Dumaresq and Greene; Wood et al.). In a review of the environmental effects of organic farming in Australia, Conacher and Conacher conclude that:

Beneficial environmental effects include positive changes to soil physical, biological and chemical properties in comparison with some adverse effects associated with conventional agriculture. Other benefits are linked to [...] potential improvements to the serious problems of soil and water salinity and the loss and deterioration of ecosystems (1998, 145).

However, it is unclear how far-reaching and generalizable these findings are across Australia, and there is clearly need for more scientific research on the complex connections between agricultural systems and long-term environmental impact.

Nonetheless, in the world’s largest consumer markets for organic products (notably the US, countries of the EU, Japan), organic agriculture has moved beyond the reputation of being overly ‘alternative’ that it has had in previous years (see Lockie and Halpin). With more positive associations of organic agriculture emerging, governments and the private sector have increased investment into research and development (R&D), marketing and supporting structural or institutional frameworks of organic agriculture. However, these processes have been much less prominent in Australia, and signs of

government taking an initiative to support organic agriculture – despite evidence of its benefits – seem limited (see Halpin et al.). Why is this the case?

This paper starts with a general overview of the organic industry in Australia followed by a discussion of the various challenges faced by the industry, including production, marketing and distribution, and contextual socio-political and institutional issues such as regulation, certification and R&D. The conclusion highlights the major difficulties faced by the organic industry and offers a tentative outlook to future developments.

2. The Place of Organic Agriculture in Australia

Over the past three decades or so, a variety of different understandings of ‘organic’ has evolved. Most of these definitions have been formalised in the shape of codified standards. Along with the Food and Agriculture Organization of the United Nations’ (FAO) Codex Alimentarius, the International Federation of Organic Agriculture Movements (IFOAM) principles are the baseline for most organic standards that are in use around the world today. According to the World Health Organization and the FAO, organic agriculture includes

practices which seek to nurture ecosystems which achieve sustainable productivity, and provide weed, pest and disease control through a diverse mix of mutually dependent life forms, recycling plant and animal residues, crop selection and rotation, water management, tillage and cultivation (WHO and FAO).

Organic agricultural practices were first applied in Australia in the 1940s, based on ideas and values imported from Europe (see Kristiansen and Merfield; Wynen and Fritz; Jones), however the farming conditions in Australia were very different from those encountered in Europe or North America. Rainfall was sparse and unreliable (or excessive in some seasons) and the soils in many regions were infertile or prone to degradation due to their ancient origins, sometimes as sea beds in previous geological eras. In Europe, the rainfall was more generous and evenly spread, and the young soils had much greater fertility and depth (see Leeper and Uren). In Australia, widely dispersed agricultural production areas and a small population posed significant challenges for farming, both organic and conventional. Consequently, some early players in the Australian organic movement aligned more with smaller-scale production such as gardening (see Stevenson; Jones).

After two or three decades of gradual development by farmers and farming groups, a new set of issues began to emerge in the late 1960s and into the 1970s. The second phase in the global development of organic agriculture was based on growing awareness about the possible impacts of industrial agriculture on human health and the environment (see Holt and Reed) and the rise of anti-establishment activism (see Lockertetz), which created a new set of players in the organic movement: now consumers were becoming very interested in organic produce. Around the world, organic agriculture became more formalised, and an umbrella organisation, IFOAM, was founded in

1972, initially with five member countries. In Europe, governments started to provide direct subsidies to encourage the adoption of organic farming (see Axelson). Organic standards, certification systems and logos became an important marketing feature, and specialised retail outlets opened to cater for the increasing demand for organic produce in urban areas (see Lockie et al.). In Australia, early supply chains were fractured, and volume and quality were highly variable (see Conacher and Conacher 1991). At this point in time, organic food was not commonly available in supermarkets. A third phase in the development of organic agriculture was largely a process of mainstreaming, globalisation and corporatisation. Such trends began in the 1970s, accelerated through the 1980s, and continued to flourish during the 1990s and into the new millennium (see Lockeretz).

For the past several years Australia has been recognised as having the largest area of organic farmland in the world, approximately 12 million hectares (see Mitchell and Kristiansen; Willer et al.). However, about 97% of this is rangelands with very low intensity beef cattle farming. Figure 1 shows that the increase in organic farmland in Australia from the 1990s reached a plateau in 2003, and that there has been little change in the following 10 years. It is noteworthy that the global area of organic land has continued to grow and that Australia's share has been falling since 2006. The value of the retail market in Australia is estimated to be about AUD 1.28 billion and farm gate value is estimated to be AUD 0.4 billion (see Monk et al.).

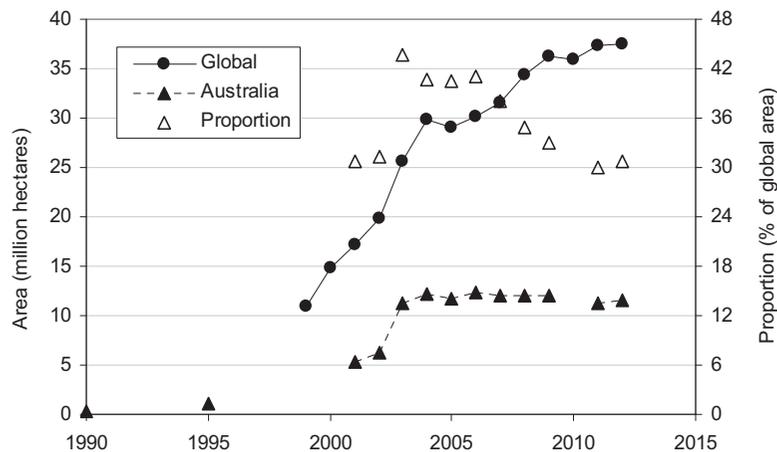


Fig 1: Area of certified organic agricultural land in Australia (▲) and globally (●), and Australia's proportion (△) of the global area (see Mitchell and Kristiansen; Willer et al.).

3. Challenges for Organic Agriculture in Australia

At the individual enterprise level, primary producers have production and marketing issues which they are required to address. Further along the supply chain, processors, manufacturers and traders also contend with technical and market based constraints to managing their operations. These challenges may be related to productivity and/or profitability, and they create specific pressures for input and transaction costs and price risk (see Wynen 2006a; Rigby et al.). The concerns faced by the Australian organic sector are common to those generally faced by the organic sectors in developed and developing countries. However, the Australian situation has several features which lead to specific challenges for organic farmers, including non-interventionist government policies (see Halpin and Daugberg 2008a), and higher labour and transport costs (see Gray et al.).

Production Challenges

Agriculture in Australia is challenged by production issues such as rainfall variability and soil degradation (e.g. salinity, acidity) and low inherent soil fertility in many places. Within this biophysical context, organic farmers address several major production challenges using local options (see Luedeling and Wichern), rather than relying on farm management technologies imported from Europe or North America, emphasising the site-specific nature of organic agriculture (see Kristiansen et al. 2006). Soil fertility management can be restricted by the range of certified fertilisers available (see Penfold et al.; Burkitt et al.), a global issue for organics, but worsened in Australia due to wide areas of poor soils (see Nachimuthu et al.). Many studies of organic systems in Australia have found that the biological and physical properties of their soil are normally equivalent to or better than those found in conventional systems (see Dumaresq and Greene; Wood et al.; Chan et al.; Pattison et al.). The management of weeds, pests and diseases in crops and livestock is another concern for organic farmers in Australia, who are faced with a narrower choice of management options, often including techniques that are less effective in the short term (see Francis and Porter). While it is noteworthy that pest management capacity can improve with increased organic farming experience (see Kristiansen), the need for local solutions suited to Australian farming conditions remains an ongoing challenge.

Marketing and Supply Chain Challenges

A number of marketing and supply chain issues constrain organic agriculture. Australia is a large continent with a small, dispersed population; there are a small number of organic operators (producers, processors, manufacturers and traders) in total and within each commodity sector, and many organic commodity sectors are in an undeveloped or emerging state (see Wynen et al.; Halpin et al.). Consequently, certified input costs such as fertilisers may be high, and the supply of some inputs may be very limited (e.g. stock feed). Buying animals for fattening can be difficult or expensive where

there are insufficient local breeding operations, and the organically certified abattoir may not be nearby (see Wynen 2006b).

The growth of the organic sector in Australia has been consistently strong, especially dairy and fresh fruit and vegetables, although some commodities have struggled with supply, particularly grains and livestock for meat and wool (see Kristiansen et al. 2008; Mitchell et al.; Monk et al.). With a small domestic market, greater participation by the national supermarkets, and the number of certified organic farmers changing over time, the potential for fluctuating supply and demand is high, and over-supply or under-supply can occur rapidly depending on commodity (see Lockie et al). Consequently, the pressure on prices is generally negative (see Wynen 2006a). Where the development of supply has been slow, the domestic demand has been met by an ever-increasing range of imports, increasing in terms of product diversity as well as the range of countries now supplying organic goods into Australia (see Monk et al.).

Socio-political and Institutional Challenges

There are a broader range of considerations that will influence the rate of growth and the resilience of a developing industry. These contextual factors include structural and policy issues such as industry representation, government support and consumer awareness (see Halpin and Daugbjerg 2008a; Halpin et al.). A major impediment to the development of the organic industry in Australia has been the lack of support by the national government, agricultural R&D corporations, state agencies and the university sector. Although there have been some examples of funding, policy initiatives and legal enforcement, any such support has been minimal (see Halpin and Daugbjerg 2008a). Two of the most important issues in this regard are the regulatory framework, including standards and associated logos, and R&D, which are discussed in the following sections.

Standards and Regulation of Organic Agriculture in Australia

For the food sector in general, Australia has developed a range of laws, policies, labelling requirements and sanitary and phyto-sanitary standards which are supervised by the Commonwealth Department of Agriculture. Crucial in particular for imports, these determine whether the food product may be sold in Australia at all. It is Australian organic regulations that determine whether the product may be sold with an organic label (see Department of Agriculture 2016).

In Australia, there are currently two public standards and six private organic certification bodies approved by the Department of Agriculture (2015). Apart from hence being permitted to determine compliance to the two public standards, five of them maintain their own private organic standards (Table 1). The standards documents prescribe the exact criteria that the production process of crops or animal husbandry have to fulfil in order to be certified against the standards. While the baseline for most of these standards is the Codex Alimentarius (see WHO and FAO; see definition of 'organic'

above), they can differ in details concerning e.g. permitted inputs, crop sequence, etc. Certification, also called third-party certification, is an independent (generally annual) audit of all operators along the supply chain wanting to sell their products under the label of one or more of the organic standards, to ensure that their production process complies with the standards' specific requirements.

Australia's first public organic standard in 1992 was developed in response to the 1991 EC-Eco-Regulation (see EU), which required all exporting countries who wanted to gain access to EU markets to certify their organic produce according to compliant or equivalent standards. Up to that point, the Australian Government had taken little interest in the organic sector. Instead, its focus had been on supporting those agricultural sectors which were geared to generating income through large scale export volumes (e.g. wheat, wool, beef). Once organic exports were at risk of losing overseas market opportunities, Australia implemented the National Standard for Organic and Biodynamic Produce (short: National Standard, see OISCC). This standard is valid to date and mandatory for organic exports only (see Bernzen). In 2009, a public organic standard for the domestic market and imported organic products was implemented in Australia; the Australian Standard for Organic and Biodynamic Products (AS 6000-2009; in short: AS 6000). Its development was triggered by a 2007 court case in which a producer was charged for mislabelling conventional eggs as organic. At the time, judges found the laws controlling the use of the word "organic" were inadequate (see Wynen 2007; Bernzen). Under the auspices of the Secretary of Standards Australia, AS 6000 was subsequently designed by a Technical Committee (TF-032) consisting of representatives from relevant stakeholder groups: government agencies, certification bodies, producers, processors, consumer interest organizations, organic farmers associations and trade/retailer associations, as well as technical experts (see Wynen 2007).

There has since been a considerable debate on whether certification against AS 6000 should be made mandatory. Unlike most other government standards (e.g. EU, USA National Organic Program) that are relevant for domestic markets, the Australian standard is voluntary, but can be used by the government to execute existing legislation (e.g. misleading or deceptive conduct in labelling) (see Lockie et al.). This reflects the general market-oriented approach of the Australian government to mandate only in situations where market failure can be observed (see Bernzen and Braun). Thus, while most operators selling products labelled organic in Australia do choose to be certified against an organic standard to gain consumer trust, they are not legally required to use one particular (government) standard – unlike in the EU, where the EC-Eco-Regulation is a minimum prerequisite.

While uptake of the AS 6000 has been slow, there are small signs of interest even from larger companies (pers. comm. with André Leu 2014). Opinions vary on the value of the new AS 6000 versus the National Standard, or versus the private organic standards listed in Table 1. Proponents of the new public standard argue that an overarching authority can help create more market transparency and consumer trust, while at the

same time playing a more neutral role than private standard providers. Being commercially driven, the latter have little direct interest in promoting an additional (public) standard that would technically be a competitor to their own. At present, most organic operators continue to use the National Standard and/or one of the private standards (see Bernzen). The latter, particularly the two largest certifiers – Australian Organic Ltd. and NASAA – are well known and their logos widely dispersed in Australia. Together, they currently cover about 90 % of the market (see Mitchell and Kristiansen).

Issuing organisation and/or certification body	Name of Standard (year of implementation)	Type of Standard
Standards Australia	The Australian Standard for Organic and Biodynamic Products – AS 6000-2009 (domestic and imports) (2009)	Public Standard
Department of Agriculture, Fisheries and Forestry (DAFF); Organic Industry Standards and Certification Council	The National Standard for Organic and Bio-Dynamic Produce (Export standard) (1992)	Public Standard
AUS-QUAL Limited	(Maintain no own standard, but certify against various e.g. National Standard, ISO9001, Safe Quality Foods, GlobalGAP)	--
Australia Organic Ltd. (formerly Biological Farmers of Australia, BFA)	Australian Certified Organic (ACO)	Private Standard
Bio-Dynamic Research Institute	DEMETER Bio-Dynamic	Private Standard
The National Association for Sustainable Agriculture, Australia (NASAA)	NASAA Certified Organic (NCO) (1986)	Private Standard
Organic Food Chain Pty Ltd	Organic Food Chain (OFC)	Private Standard
Safe Food Production Queensland (SFQ)	SFQ Certified Organic	Private Standard

Table 1. Organic standards and certification bodies for organic agriculture in Australia.

It has been argued that this standards landscape in Australia has caused confusion among consumers due to the multiple certifier logos that appear on organic products sold by retailers (see Henryks and Pearson). To add to the confusion, imported organic products are also sold under their own (overseas) standards and relevant logos. This is due to the fact that in order to meet import requirements, the importer of an organic product for sale in Australia must merely prove that it comes from an “equally reliable system”. These latter systems are determined by the Government and currently include the largest overseas standards, e.g. by the EU, USA, Switzerland, Japan, IFOAM and others (Standards Australia 2009). According to the Organic Federation of Australia, the introduction of a single organic logo for the Australian market could solve this problem (see Oates); however, with ongoing disagreements within the industry and certifiers in particular, combined large scale efforts to enforce this seem unlikely in the near future.

Research and Development

A second important aspect of the lack of government support for the organic industry in Australia can be seen in the case of R&D funding. A major source of money for more than a decade was the Rural Industries R&D Corporation’s Organic Program, which allocated AUD 3.17 million from 1997 to 2010. A number of state programs were also implemented in the past two decades, usually on a short-term basis (see Griggs). Governments are increasingly working on a co-investment model of R&D funding which is intended to increase relevance and accountability (see Rural RDC). In that context, the rather limited financial support from medium to large organic operators is another disincentive for the government to support the organic industry.

Wynen (2003) highlighted the mismatch between organic levies received and spending on organics. Levies and fees paid by all certified operators to public-sector agricultural R&D corporations were estimated to be AUD 656,200 in 2001, while government expenditure on organic R&D was about AUD 450,000. More recently, in a report to the Victorian state government, the Wyld Group noted that investment in primary industries by national, state and territory agencies was about 1.2% of the overall value of the agrifood sector. They estimated that an equivalent investment in organic R&D should be at least AUD 7 million annually. However, production is significantly higher now than in 2008. Given a retail value of AUD 1.28 billion and a ratio of 1% for R&D spending, government funding of about AUD 12.8 million might be considered reasonable.

Although several European countries enjoy reasonable R&D, in Australia and most other countries research funding is very low, and is not proportional to organic market share or area farmed organically (both ~1%) (see FAO and IFOAM). Countries with higher allocations tend to have more interventionist policies for agricultural productivity and its environmental impacts (see Halpin et al.). The lack of government support in Australia may be related to a lack of awareness or appreciation of the value of organic agriculture (see Conacher and Conacher 1998; Leu) or of the industry as a legitimate, emerging niche market (see Wynen 2003). The government is essentially non-interventionist in many areas of commerce, though less so in agriculture (see Halpin and Daugbjerg 2008b) and may be unwilling to directly support certain industries, especially those perceived as ‘alternative’ (see Lockie and Halpin).

Australian agricultural professionals were reported to view organic agriculture more favourably when they had greater knowledge of and experience with the sector (see Wheeler 2008). Wheeler (2011) points to a concern that some government policies may have hampered the development of the organic sector. Structural and power inequalities between farmers and major food corporations are widely reported (see e.g. Burch et al.; Scanlan) and conflict between representatives of the organic and conventional agriculture sectors have also been noted (see Trewavas; Lockie).

Government intervention may be contingent upon the ability of the organic industry to demonstrate cohesion, representativeness, leadership and administrative capacity (see Halpin and Daugbjerg 2008a; Halpin et al.). However, these conditions have not generally been met by the organic industry in Australia. The organic industry consists of diverse commodity and value-chain sectors and is geographically dispersed. Australia's federal system creates multiple points of contact for the fragmented organic industry (see Halpin and Daugbjerg 2008a). The national umbrella body, the Organic Federation of Australia, lacks an income stream and administrative capacity. Industry disharmony and conflict have been manifested in conflicting attitudes about organic standards, labelling requirements and expectations of what is truly 'green' (see Lockie et al.; Chang and Kristiansen). Some organic stakeholders have sought government intervention to facilitate the industry development and expansion and the protection of consumers from fraud (see Hall), while others reject any cooperation with the public sector, or even other organic organisations. This has led to poor representation on the national level (see Halpin and Daugbjerg 2008a).

4. Conclusions

The starting point of this contribution was the proposition that organic agriculture offered a promising sustainable alternative to conventional farming methods, aiming to reduce the negative impacts caused by agriculture to Australia's natural environment. With growing pressure on agricultural land, and signs that climate change is starting to have an impact, the need for sustainable food production systems is becoming increasingly imperative. Should organic agriculture then not, by all means, be given a 'fair go' to provide future generations better resources and hence a 'fair go' to sustain their own lives and food security?

In an attempt to evaluate the potential of the Australian organic agriculture sector in this context, our discussion has demonstrated that the organic industry in Australia has undergone clear positive developments in terms of market size and the number of producers and consumers. The reputation of organic agriculture is improving as it develops from an 'alternative' image to one that is more mainstream. Domestic demand is growing at a high rate, and organic products are made more readily available to consumers via (mass) distribution channels like supermarket chains. Positive steps to strengthen the legal status of organic products have been pursued, such as the development of the independent and credible AS 6000 standard.

However, the Australian organic agriculture sector also faces some serious challenges that hamper its growth and consolidation and prevent it getting a 'fair go' among the diverse range of options available to producers and consumers. After a promising period from the 1990s to 2000s, government support has declined in recent years to almost nothing, with very few R&D and extension programs, and very little funding for

industry development. It is noteworthy that the level of R&D funding for the organic sector is lower than the amount paid in levies to the government by organic producers.

The organic industry itself needs to address its disunity and poor governance structures and processes, focussing on coordinated approaches to lobbying and marketing (including provision and maintenance of appropriate infrastructure), rather than fostering self-interest. Without such progress, it is unlikely that the sector will get due recognition from disinterested, non-interventionist governments. With strong brand recognition among consumers, growing demand from the big retailers and increasing community awareness of clean and green food production systems, the organic industry could be harnessing that momentum to get a 'fair go'.

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