Land Use Policy 66 (2017) 331–339

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol

# The organic industry in Australia: Current and future trends

Barry O'Mahony[a,*], Antonio Lobo[b]

[a] University of Wollongong, Dubai, United Arab Emirates
[b] Swinburne University of Technology, Melbourne, Australia

ARTICLE INFO

*Keywords:*
Agriculture
Growth rate
Organic
Value-added
Consumer trends

ABSTRACT

Accurate information is critical for investment, policy alignment and to support agricultural development. In Australia information relating to the size, growth, current and future value of the organic sector has been incoherent and, in some cases, contradictory. This study seeks to address this gap by synthesising industry and government data with the results of an online quantitative survey as well as a series of in-depth interviews to capture the value added component of the organic industry in Australia. By sub-dividing the total organic industry into thirteen categories which makes for meaningful analysis and interpretation, we aimed to estimate the compound average growth rate, the current value added and future trends in the Australian organic industry. This has resulted in some interesting findings, hence the methodology could potentially serve as a benchmark for the reporting of organic food growth globally. The findings also have important implications for various stakeholders including, growers of organic products, investors, land use policy makers and industry operators.

## 1. Introduction

While organic agriculture dates back to 1924 when Dr Rudolf Steiner presented arguments for chemical free farming, organic farming has its roots in Lord Northbourne's manifesto published in 1940 (Paull, 2014). This manifesto highlighted the difference between chemical and organic farming based on the avoidance of synthetic fertilisers and pesticides. This distinction is still a central element in organic production systems (Orboi, 2013); however, precise standards supported by national and international regulation, accreditation and certification also govern the production and labelling of organic produce (Bonti-Ankomah and Yiridoe, 2006).

Most organic certifying bodies operate at the local level. However, the International Federation of Organic Agricultural Movements (IFOAM – Organics International, 2016) is the overarching global umbrella organisation for the organic agriculture sector (http://www.IFOAM.bio/en). This organisation seeks to unite organic practitioners from the many countries that engage in organic farming. However, data on the size and value of the organic industry, as well as the growing demand for organic products, can be difficult to obtain. IFOAM – Organics International have sought to address this in a series of frequently updated reports (see for example Willer and Minou, 2007; Willer et al., 2008; Willer and Kilcher, 2011, 2012). These reports identify Australia as the country with the largest area of land under organic cultivation; however, there has been considerable inconsistency in evaluations of the organic industry within Australia because there has been no regular or systematic collection of industry data (Wynen, 2015). As a result, an accurate representation of the size, value and future potential of both the industry per se and specific industry categories has yet to emerge. This lack of understanding of the industry's contribution to the economy represents a problem for land use policy development, business decision making and future investment.

We seek to address this research gap by bringing together primary and secondary data to illuminate the current state of play in the Australian organic industry. The study uses the 2012 market report published by Australian Organic, one of Australia's largest organic certification bodies, as a benchmark and then builds on this and other industry and government sources by collecting quantitative and qualitative data from a large sample of key organic operators. By sub-dividing the sector into thirteen major categories we then present a holistic picture of the current size and value of the organic sector in Australia as well as implications for future growth. The objectives of this study are to:

- Calculate the growth and current value added component of major categories of the organic industry;
- Investigate pertinent current and future issues specific to each category from the perspectives of selected key stakeholders;
- Evaluate the future scenario of each category of the organic industry.

* Corresponding author at: Block 15 Knowledge Park, P.O. Box 20183, Dubai, United Arab Emirates.
*E-mail address:* BarryOMahony@uowdubai.ac.ae (B. O'Mahony).

http://dx.doi.org/10.1016/j.landusepol.2017.04.050
Received 17 October 2016; Received in revised form 17 April 2017; Accepted 20 April 2017
Available online 18 May 2017

The article is structured as follows. First we present a review of literature on the organic food industry and the key factors that influence industry growth. We then sub-divide the organic industry into thirteen main categories in order to present a more precise picture of overall industry performance. We describe the methodology used to collect primary quantitative and qualitative data, analyse and discuss the results of the study, and present the implications and limitations of the research.

## 2. The organic food industry

While the evolution of the organic industry has been a global phenomenon there are key periods of growth that have been significant. Since the mid-1990s, for example many organic food and beverage products have moved from niche to mainstream, which has subsequently increased organic production (Chen and O'Mahony, 2013). While Western Europe and the US make up 90% of global certified organic sales, in Australia reporting of market data is somewhat patchy, despite the fact that Australia has the largest area of land under organic cultivation (Orboi, 2013; Willer and Lernoud, 2014). Indeed, Wynen (2015) notes that most organic industry data in Australia has been inaccurate due to a series of methodological problems related to industry classification, price premium and a lack of distinction between the production and sales of organic products.

Australia established itself as an early leader in the adoption of organic farming. Indeed, shortly after the publication of Lord Northbourne's manifesto the first organic association in the world: The Australian Organic Farming and Gardening Association (AOFGS) was established (in 1944). Since then, Australia has maintained its position as an international leader; however, Australia's organic evolution occurred in four major waves (Paull, 2013). The first of these occurred during the 1920s and 1930s when Italian farmer and anthroposophist, Ernesto Genoni, led the development of organics using the knowledge and experience he acquired through working with leading figures in biodynamic agriculture such as Ehrenfried Pfeiffer, Ernst Stegemann and the Agricultural Experimental Circle of Anthroposophical Farmers and Gardeners (Paull, 2014).

The second wave was led in 1944 by organics pioneers who established organics advocacy groups such as the Australian Organic Farming and Gardening Society (AOFGS), the Compost Society of Victoria (established 1945) and the Living Soil Association of Tasmania (established 1946). In the 1960s and 1970s, a third wave was triggered by the publication of Rachel Carson's book *Silent Spring*, which raised awareness of the organics movement (Paull 2014). The final wave was instigated by the nuclear disaster in Chernobyl in 1986, which heightened concerns around food production and safety due to fears of nuclear contamination. Australia's major national and international organic certifiers, The National Association for Sustainable Agriculture, Australia (NASAA) and the Biological Farmers of Australia (BFA) (now Australian Organic) were founded shortly after this disaster and are now the dominant organic certification bodies in the country (Paull, 2008).

The literature shows that the rise in organic production is directly influenced by consumer preferences that are predominantly motivated by health, ethics and trust. Each of these is discussed below. While there are no proven health benefits to the consumption of organic or non-organically produced food, there is a general assumption that organic produce is better for you (Chryssochoidis and Krystallis, 2005; McEachern and McClean, 2002; Millock et al., 2004; Padel and Foster, 2005; Radman, 2005) and this perception is a major driver for consumers (Squires et al., 2001; Chinnici et al., 2002; Lea and Worsley, 2005; Shepherd et al., 2005; Chakrabarti and Baisya, 2007). Health conscious consumers have also been found to be mindful of medical advice when choosing food, especially women who consider the health of their children in food purchasing decisions (Davies et al., 1995; Furst et al., 1996; O'Mahony and Hall, 2007). Indeed, in a study by Tregear et al. (1994), over 45% of respondents cited health concerns as the primary motive in purchasing organic food. As a result, concern for health and wellbeing has contributed to an increase in the popularity and consumption of organic food (Schifferstein and Oude Ophuis, 1998; Connor and Douglas 2001; Verhoef, 2005), which is mainly based on the absence of chemicals or pesticides in the production process (Harper and Makatouni, 2002; Botonaki et al., 2006; Tsakiridou et al., 2008).

For example, Onyango et al.' (2007) study found that many participants chose organic food products because they felt that they were more *natural* than other foods that have been artificially produced or enhanced. The literature also shows that those who are health conscious and desire natural foods are willing to pay a premium for what they perceive to be better quality (Krystallis and Chryssohoidis, 2005; Grannis et al., 2001; Aguirre, 2007; Ureña et al., 2008).

The purchase and consumption of organic produce is also influenced by ethical concerns, particularly environmental sustainability and animal rights. The absence of fertilisers, pesticides, herbicides, growth hormones or antibiotics means that organic production is generally less harmful to the ecosystem (Tsakiridou et al., 2008) and, as a result, consumers see the purchase of organic products as beneficial to the environment (McDonald, 2001; Sanjuán et al., 2003; Clay 2013). Indeed, several studies have shown a direct correlation between concerns about the environment and a positive attitude towards organic food (Makatouni, 2002; Magnusson et al., 2003; McEachern and Willock, 2004; Honkanen et al., 2006). However, the influence of environmental factors on organic food consumption would appear to be context dependent. For example, Jain and Kaur (2004) found that Indians were less knowledgeable about the benefits of organic food production on the environment than those in more developed countries. A later study by Chakrabarti and Baisya (2007) confirmed that environmental issues did not have a significant impact on the purchasing of organic food in India. The results of Chryssochoidis and Krystallis' (2005) study also suggest that concern for the environment was not a significant consideration among consumers of organic products in Greece.

Concern about animal rights in the production of food also has an impact on organic purchasing decisions. Harper and Macaroni's (2002) study, for example, those who bought organic food indicated that animal welfare was a key reason for their purchase. Similarly, Makatouni's (2002) study found that animal welfare was the second greatest motivator for purchasing organic food. While confirming the importance of animal welfare to organic consumers, McEachern and Willock (2004) also demonstrated that animal housing and transport are particularly important to consumers of organic meat and dairy products. Allen's (2006) study further examined this issue in relation to organic standards and found that the humane treatment of animals was the most popular standard that participants believed should be added to US organic standards. Their analysis also demonstrated that the humane treatment of animals motivated the purchasing behaviour of women, European-Americans, younger people and frequent organic purchasers.

The certification and labelling of organic food is another important driver of purchasing behaviour because it introduces an element of trust and quality assurance for consumers. Consumers are not always aware of the standards that organic producers must meet to attain organic certification, but the organic label on food products reassures them that rigorous organic production standards have been met (Wier and Calverley 2002; Padel and Foster 2005. Clear labelling also distinguishes organic products from non-organic products and provides confirmation, supported by trustworthy certification, that reassures consumers that they are purchasing a quality food product (Krystallis et al., 2006). It should be noted, however, that in Bellows et al.'s (2008, p.1) study, only 27% of the "highly enthusiastic proponents of organic production methods" were found to be organic consumers. This suggests that organic food labelling has most influence among those