Organic Directions:
The World, Australia & WA

NASAA WA
Ocean Reef Sea Sports Club
Ocean Reef,
Perth, Western Australia
8 February 2019

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The World of Organic Agriculture (hectares)

Density equalising map

Paull & Hennig, 2016
57.8 m ha

World total certified organic hectares

Image: J Paul; Willer & Lernoud, 2018
The World of Organic Agriculture (hectares)

Map: Paull & Hennig, 2016; *Willer & Lernoud, 2017

179 countries*
The World of Organic Agriculture (producers)

Map: Paull & Hennig, 2016; "Willer & Lernoud, 2017
Food shoppers want organic

Organic data source: GfK, 2017
Food shoppers don’t want GMOs

GMO-free data source: GfK, 2017

GM-free is important

Netherlands  28%
UK  31%
Belgium  32%
Australia  33%
Japan  36%
Canada  37%
USA  37%
Argentina  41%
Germany  43%
South Korea  43%
Brazil  45%
France  45%
Russia  45%
Spain  45%
Italy  49%
Mexico  49%
China  60%
World Organic Agriculture

World Agriculture (ha)

- Organic: 1.2%
- Rest: 98.8%

Data: Willer & Lernoud, 2018
Australia is a Giant in Organic Agriculture & a Pygmy in GM Agriculture

Organics (ha)

- Australia: 54%
- Rest of World: 46%

GMOs (ha)

- Australia: 0.5%
- Rest of World: 99.5%

Organics data: Paull & Hennig, 2018
“it is generally unsafe to eat foods grown with pesticides”*

123 different pesticides found in produce provided by Department of Health's School Fruit & Vegetable Scheme

Source: PANUK (2017)
Number of different pesticide residues detected in School Fruit and Vegetable Scheme produce (UK)

Data taken from results of testing conducted by the Expert Committee on Pesticide Residues in Food (PRiF) between 2005 and 2016.

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<tr>
<th>Produce</th>
<th>Residues</th>
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<tbody>
<tr>
<td>Apples</td>
<td>64</td>
</tr>
<tr>
<td>Soft Citrus</td>
<td>48</td>
</tr>
<tr>
<td>Raisins</td>
<td>45</td>
</tr>
<tr>
<td>Pears</td>
<td>41</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>27</td>
</tr>
<tr>
<td>Strawberries</td>
<td>23</td>
</tr>
<tr>
<td>Bananas</td>
<td>19</td>
</tr>
<tr>
<td>Carrots</td>
<td>12</td>
</tr>
<tr>
<td>Sugar snap</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: Expert Committee on Pesticide Residues in Food (PRiF) • Created with Datawrapper

Source: PANUK (2017)
Organic Agriculture excludes…

- synthetic fertilisers
- synthetic pesticides
- GMOs
- engineered nanoparticles
- irradiation
Consumers buy Organic because…

- better for family
- better for me
- better for environment
- better for animals
Organic growth
16.5% pa
for past 2 decades

Data: Paull & Hennig, 2018
Image: google.com
Australia: 8.8% organic

The World: 1.2% organic

Data: Paull & Hennig, 2018
Australia: Certified Organic Agriculture (hectares)

Paull & Henning, 2018
Australia: Certified Organic Agriculture (producers)

Pauli & Herrig (2018)
Table 1. Statistics for organic agriculture in Australia (Christie, 2018).

<table>
<thead>
<tr>
<th>Region</th>
<th>Organic hectares</th>
<th>Organic producers</th>
<th>Organic Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>QLD</td>
<td>10,667,052</td>
<td>485</td>
<td>852</td>
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<tr>
<td>NSW</td>
<td>3,601,789</td>
<td>615</td>
<td>1,267</td>
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<td>VIC</td>
<td>413,925</td>
<td>425</td>
<td>1039</td>
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<tr>
<td>TAS</td>
<td>4,769</td>
<td>72</td>
<td>127</td>
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<td>SA</td>
<td>14,102,866</td>
<td>212</td>
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<td>WA</td>
<td>4,698,791</td>
<td>165</td>
<td>287</td>
</tr>
<tr>
<td>ACT</td>
<td>2766</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>NT</td>
<td>2,153,079</td>
<td>23</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>35,645,037</td>
<td>1,998</td>
<td>4,028</td>
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</table>

Table: Paull & Henning, 2018
WA

GM Canola  GM Cotton  Organic

ABCA, 2019; Paull & Hennig, 2018
10% Discount

Figure 6. In WA, Non-GM canola consistently sells at a premium of 10% above GM canola (CBH Group Daily Contract Prices) (Paull, 2016).
Price taker or price maker?

e.g. Willie Smith

e.g. BD Paris Creek
A $5 million investment into a well-known South Australian dairy producer is underpinning its first exports of its milk into China.

Award-winning B.-d. Farm Paris Creek is in the midst of a major extension of its facilities at Paris Creek, which will see the company install a new extended shelf life (ESL) for milk by November.

While B.-d. Farm's founder Ulli Spranz declined to reveal the total investment into the expansion, the capital cost of installing the ESL is understood to be $5 million.
CHEESE

FILTER RANGE

- Cheese

CERTIFIED BIO-DYNAMIC ORGANIC

AWARD WINNING RANGE

100% AUSTRALIAN MILK

CHEESE
bio-dynamic brie 200g

+ View Product

CHEESE
bio-dynamic triple cream brie 280g

+ View Product

CHEESE
bio-dynamic triple cream ash brie 280g

+ View Product
About us

OUR STORY

FOOD FOR PURISTS

Our bio-dynamic organic products and how we do things differently

We admit it. We’re obsessed with the delicious delights of dairy (and alliteration). Here you’ll find oodles of information about our range, and about sustainable bio-dynamic organic farming. Because that is the heart and soul of everything we do. It’s our raison d’être as the French say. Our Thing, as our American friends have it.

And we’ll also share our thoughts with you on topics like our such as probiotics and the advantages (many) and disadvantages (broad) of ‘no-added anything’ dairy products like our Quarks. (You should see what it does for your gut flora, it’s positively exhilarating! Even if your tummy is a bit down in the dumps.)
Do you agree?

In the food industry, premium and organic are related but different concepts.
Organic is Premium

Do you agree?
Organic is Premium
“Organic = the Gold Standard for Premium”
The path to organic...

Dr Rudolf Steiner “Anthroposophic farming” 1924
Dr Ehrenfried Pfeiffer “Biodynamic farming” 1938
Lord Northbourne “Organic farming” 1940
Jerome Rodale OFG USA 1942
AOFGS Sydney 1944
IFOAM France 1972

Directions Workshop, Ocean Reef, WA 2019
Year Zero

1924

“the farm is an organism”

Agriculture Course at Koberwitz (Kobierzyce, Poland)

Rudolf Steiner (1865-1925)
Ernesto Genoni
Australia’s BD Organics Pioneer
1928
Getting to ‘Organic’…

Table 1: The five founding organisations of IFOAM.

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature et Progrès</td>
<td>France</td>
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<tr>
<td>Rodale Press</td>
<td>USA</td>
</tr>
<tr>
<td>Soil Association</td>
<td>UK</td>
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<tr>
<td>Soil Association of South Africa</td>
<td>South Africa</td>
</tr>
<tr>
<td>Swedish Biodynamic Association</td>
<td>Sweden</td>
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</table>

… 1972

Table: Paull, 2010
Liechtenstein Agriculture

*Certified Organic Hectares

- Rest 62%
- Organic* 38%

data: Willer & Lernoud, 2018
Data: Willer & Lernoud, 2018; * Paull & Hennig, 2018
Year 2019
+95

ad hoc growth
1 Farm @ a time

… is 1.2% Organic OK?
New strategies to grow the organics sector:

• 1 State @ a time
• 1 Country @ a time
• 1 Crop @ a time
• 1 Region @ a time

After: Paull, 2017a
1 State @ a time: Sikkim

Goal set: 2003
1 State @ a time: Sikkim

Achieved: 2016
1 State @ a time: Sikkim
1 State @ a time: Sikkim
1 State @ a time: Sikkim

Prime Minister Mohendra Modi & Chief minister Pawan Chamling
January 2016
1 State @ a time: Sikkim

74,190 certified organic hectares
64,000 farmers
Sikkim Organic conversion 2003-2016

• Leadership
• Goal setting
• Workshops, Training, Awareness
• Bio-fertilizer production
• Soil testing labs
• Withdrawal of agrochem subsides
• Agrochem outlets closed down (by 2009)
• Funding certification
• Support pricing
• Legislation
• Branding

100% ORGANIC ACHIEVED

Paull, 2017a
11 me-too Indian states …

… Goa, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Rajasthan, Tamil Nadu, Uttar Pradesh & Uttarakhand

Paull, 2017a
image: nmhs.org.in
1 Country @ a time
Bhutan

100% ORGANIC
ASPIRATIONAL
1 Country @ a time
Bhutan

Goal set: 2011
"... agriculture is the foundation of all civilizations, I believe organic agriculture, as the only way of growing sustainable food, must constitute a primary thrust in any new development paradigm"

Former PM Jigmi Thinley
1 Country @ a time
Bhutan

* organic without certification

Paull, 2017a
certified data: Willer & Lernoud, 2017
1 Country @ a time
Bhutan
1 Country @ a time
Bhutan
1 Crop @ a time
Dominican Republic

logos: piabana.de
Figure 2: Geography of Banana Imports to the U.S. Market in 2015

Source USDA data, IndexBox analysis
Global Bananas

Dominican Republic  
1%

Rest of World  
99%

data: FAO, 2017
Global Organic Bananas

- Rest of World: 45%
- Dominican Republic: 55%

Data: FAO, 2017
1 Crop @ a time
Dominican Republic
1 Island @ a time

Cicia

Organic Cicia: a project to grow our islands future

image: organiccicia.com
1 Island @ a time
Abaiang
1 Island @ a time
Abaiang
1 Island @ a time

Abaiang
Endgame?

1% Solution?

100% Solution?
Conclusion

New strategies to reframe growth:

• 1 State @ a time
• 1 Country @ a time
• 1 Crop @ a time
• 1 Region @ a time
Organisation survival ingredients …

1. Passion
2. Mission
3. $ Plan
4. Succession
Organisation $$$$ survival strategies …

Volunteers e.g. SASA
Project e.g. Soil Association (UK)
Publications e.g. Rodale (USA)
Certification e.g NASAA
Memberships e.g. Garden Organic (UK)
Government e.g EU subsidies
Co-op e.g. Organic Dairy Farmers of Aus
Organic Farming Digest

Vol. 1 No. 1

April, 1944

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Dedicated to the conservation of man’s greatest heritage—the living soil, and to the promotion of health in plants, animals, and mankind.

Paull, 2008
Figure 5. Number of mentions of Organic Farming in the Australian press before and during the life of the AOFGS.
Figure 5. Number of mentions of Organic Farming in the Australian press before and during the life of the AOFGS.
1946
Soil Association
UK
Organisation survival ingredients ...

1. Passion
2. Mission
3. $ Plan
4. Succession
Organics research ... since 1924
Finding Organics research …

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researchgate.net
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Maps of Organic Agriculture in Australia


Summary

Australia is the world leader in organic agriculture, based on certified organic hectares. This has been the case since global organic statistics were first published (in 2000). Australia now accounts for 54% of the world's certified organic hectares. Australia has 36,645,000 certified organic hectares which is 8.8% of Australia's agricultural land. In the present paper, three maps (cartograms, "maps with attitude") of organic agriculture illustrate the data, at the state and territory level, for (a) certified organic hectares (36,645,037 hectares), (b) certified organic producers (n = 1,988), and (c) certified organic operators (producers and territories are reallocated according to their measure for each attribute). The base-map for Australia, with states and territories coloured according to their state colours (or a variation thereof), is included. The three organic maps are density-equalising cartograms (area cartograms) where equal areas on the map represent equal measures (densities) of the parameter under consideration. Recognisably new maps that reveal where there is a high presence of the parameter under consideration (and the state or territory is "fat"), or a low presence (and the state or territory is "skinny") distribution of the metrics of organic agriculture in Australia, and, on a state or territory basis, they suggest unrealised opportunities and potentials.

EPrint Type: Journal paper

Keywords: cartogram, Queensland, New South Wales, Victoria, Tasmania, Northern Territory, South Australia, Australian Capital Territory, Western Australia

Subjects: Farming Systems
- "Organics" in general > Countries and regions > Australia
- "Organics" in general > Countries and regions > World

Research affiliation: Australia > University of Tasmania

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John Paul, PhD

The Pioneers of Biodynamics in New Zealand
Harvests, 2018
The earliest pioneers of biodynamic farming and organic agriculture in New Zealand. (more)
Download 157 Views

Map of Organic Agriculture in Australia
Journal of Organic, 2018
Australia is the world leader in organic agriculture, based on certified organic hectares. This is... (more)
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A peace postcard for that was printed by an ANZAC canteen worker who served at the Battle of Th... (more)
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organic agriculture, organic food, biodynamic farming, environment, sustainability

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<td>J Paull, K Lyons</td>
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<td>The greening of China’s food-green food, organic food, and eco-labelling</td>
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Thank you

... Questions

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References


Abstract

Organic agriculture in Australia is a success story. Certified organic agriculture in Australia accounts for 35.6 million hectares which is 8.8% of Australia’s agricultural land. The rate of growth of organics in Australia has been 16.5% per annum for the past two decades. Based on certified hectares, Australia is now the world leader in organics, and now accounts for more than fifty percent of the world’s certified organic hectares.

The development of organic agriculture throughout Australia has been somewhat uneven. The map of organic agriculture in Australia, reveals that South Australia and Queensland are the standout leaders based on certified hectares. Western Australia is underperforming on this metric (as are also Victoria and Tasmania). The map of organic producers reveals good prospects for growth in organics hectares for Victoria and Tasmania (and the opportunity for growth in WA).

The prospects for organics are very favourable, with most adults agreeing with the proposition that it is unsafe to eat food grown with pesticides. Globally, substantial numbers of shoppers seek organic foods and avoid genetically modified (GM) foods.

Western Australia has 4.70 million hectares of certified organic land. This compares to 0.96 million hectares of GM crops (canola and cotton). There is a price premium for organic. In contrast, GM canola sells at a discount of about 10% compared to non-GM canola.

Western Australia has a long history of engagement with organics dating from 1928 when members of the Genoni family, including those who farmed near Broomehill and Kojonup, took up Rudolf Steiner’s biodynamic farming ideas.

The state of Sikkim in India has recently achieved the distinction of becoming the world’s first state to be 100% organic, with all farmers and all agricultural land now certified. Other states in India are following Sikkim’s lead. The Dominican Republic has taken an alternative path to growing organics, and it accounts for 55% of the world’s organic bananas.

The prospects for the growth of organics in WA are good. A new dedicated organics advocacy entity with a passion, a mission, a plan and a view to succession could well serve the cause of organics in WA, grow the sector, and enhance the perception of WA as a source of premium food and crops.

Citation:

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