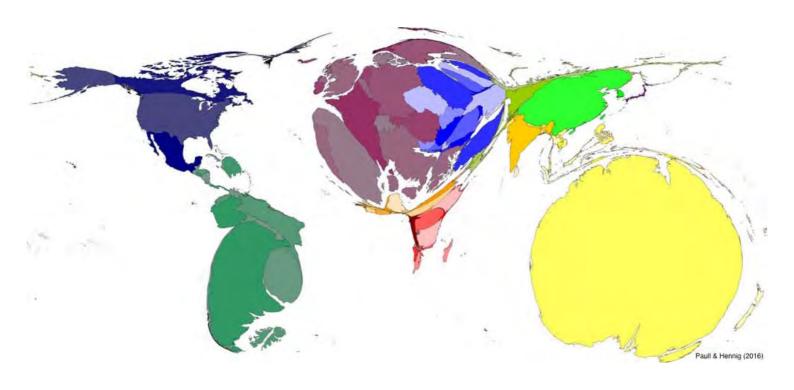


Organic Directions: The World, Australia & WA

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

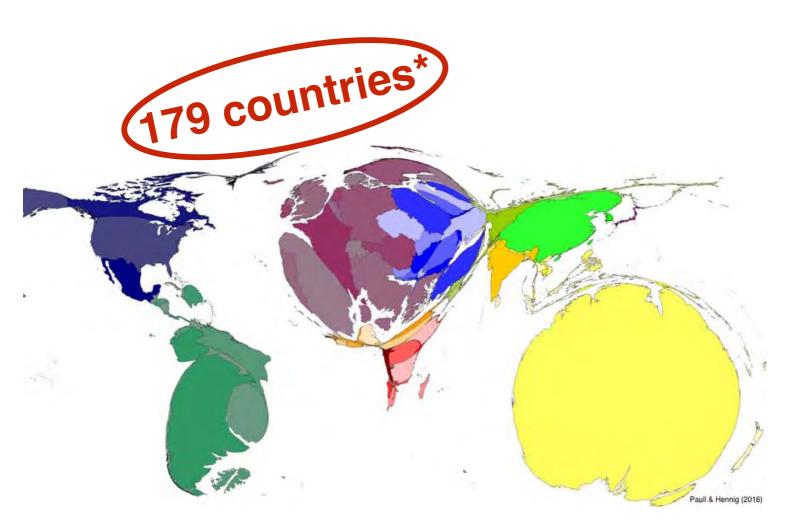
Dr John Paull College of Science & Engineering University of Tasmania j.paull@utas.edu.au john.paull@mail.com

The World of Organic Agriculture (hectares)



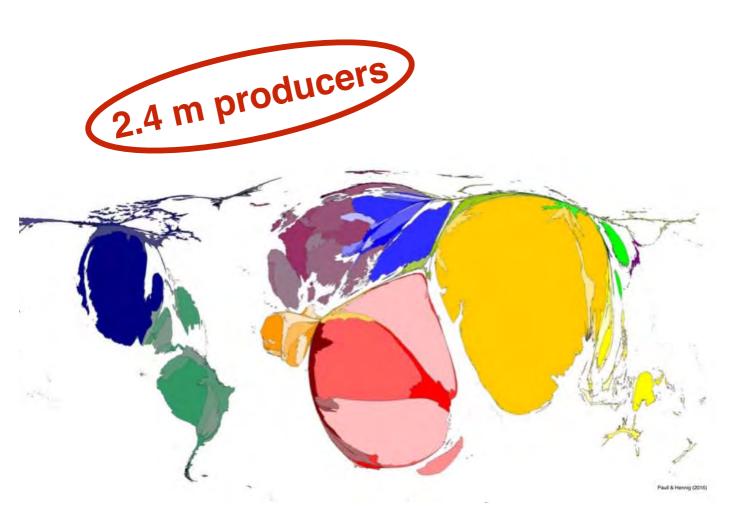
Density equalising map Paull & Hennig, 2016





The World of Organic Agriculture (hectares)

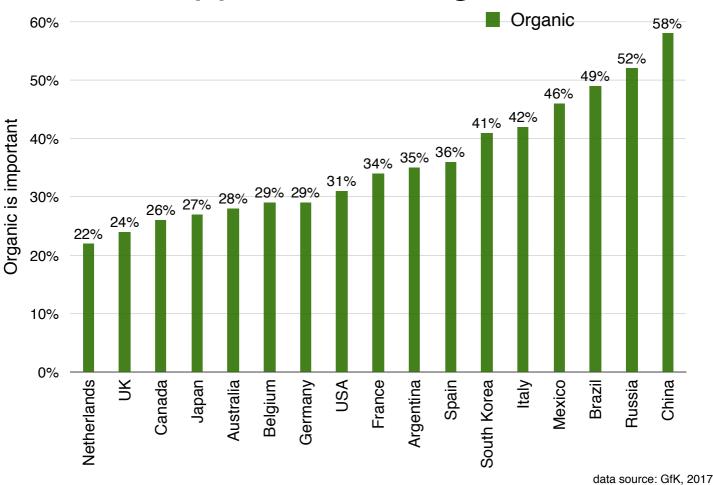
Map: Paull & Hennig, 2016; *Willer & Lernoud, 2017



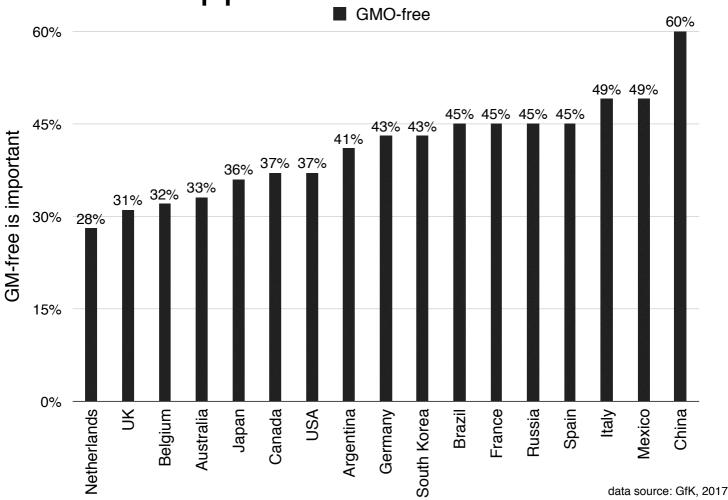
The World of Organic Agriculture (producers

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

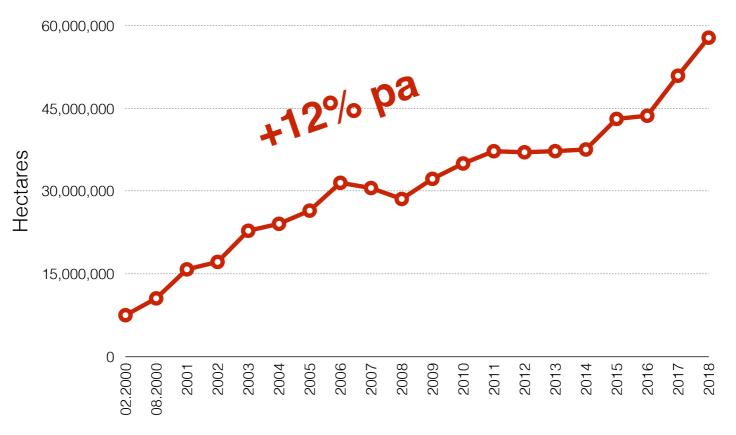
Food shoppers want organic



Food shoppers don't want GMOs

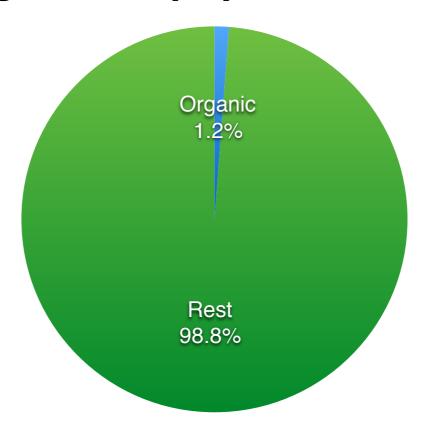


World Organic Agriculture



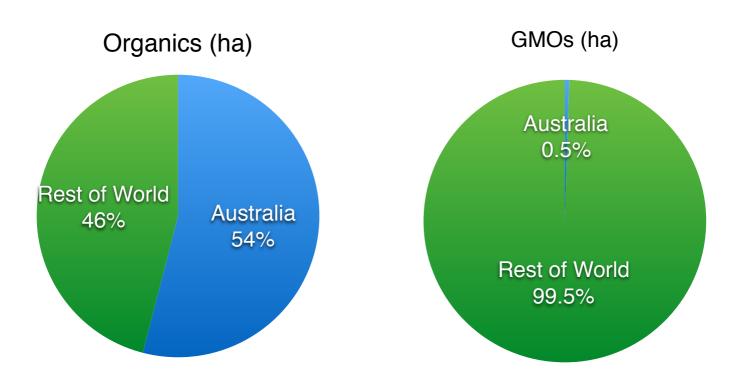
Data: Willer & Yussefi (2000) - Willer & Lernoud (2018)

World Agriculture (ha)



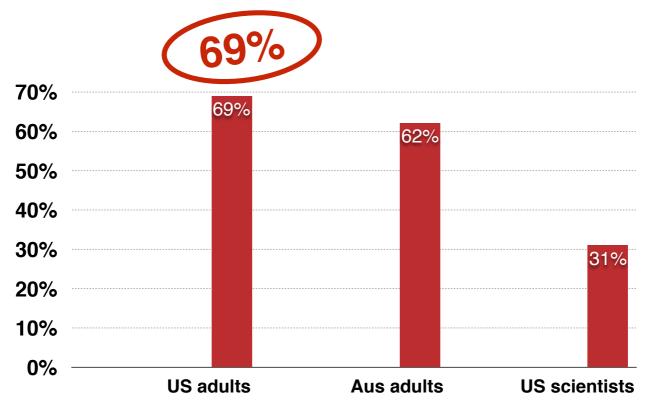
Data: Willer & Lernoud, 2018

Australia is a Giant in Organic Agriculture & a Pygmy in GM Agriculture



Organics data: Paull & Hennig, 2018

"it is generally unsafe to eat foods grown with pesticides"*

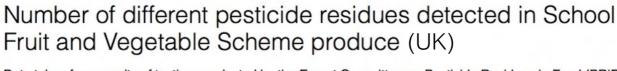


^{*}Pew Research Center, 2015, p.5, US adults N=2002; US scientists 31%, N=3748; Lamberts (2017): Aus adults N=1203

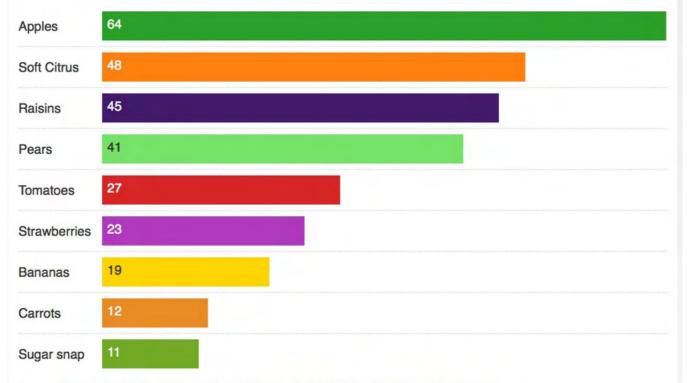
123 different pesticides

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

Source: PANUK (2017)



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



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

Source: PANUK (2017)



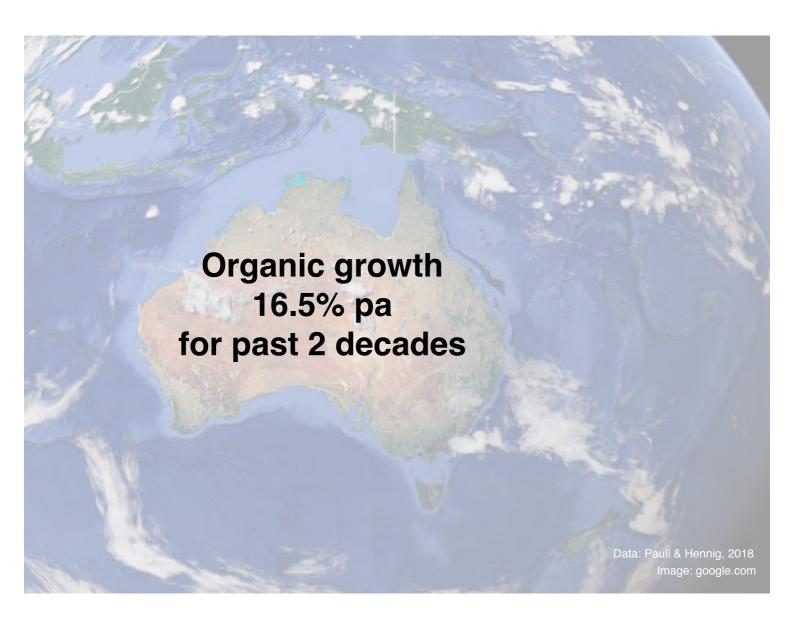
Organic Agriculture excludes...

- synthetic fertilisers
- · synthetic pesticides
- · GMOs
- engineered nanoparticles
- · irradiation



Consumers buy Organic because...

- better for family
- · better for me
- better for environment
- · better for animals



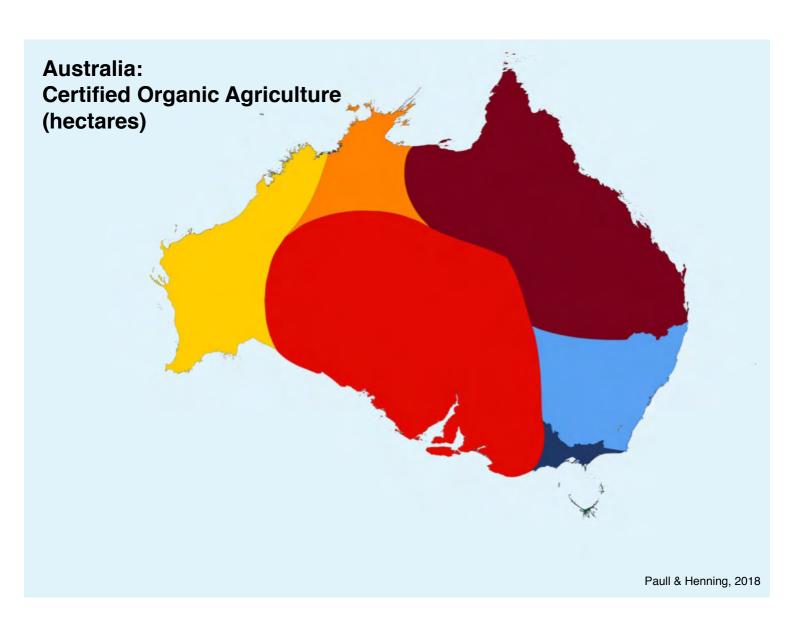


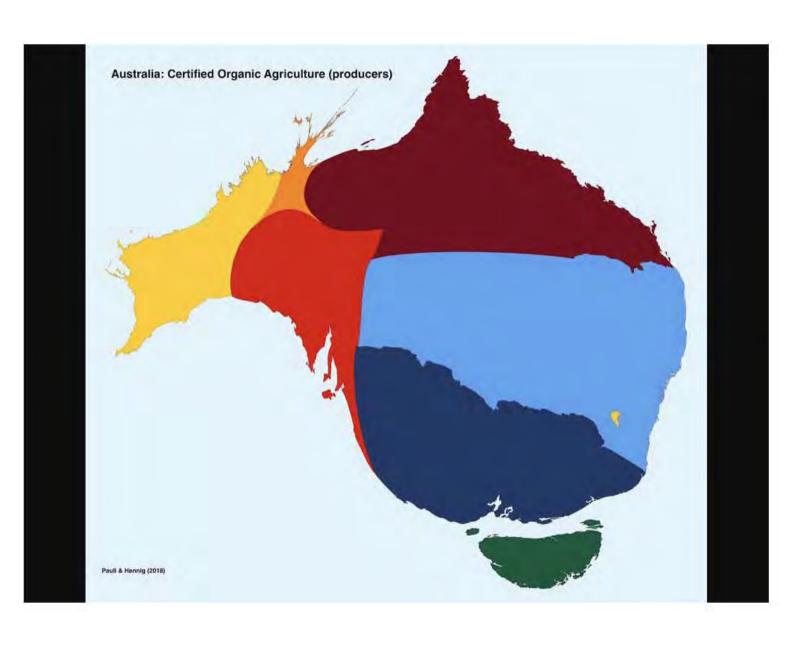
Australia: 8.8% organic

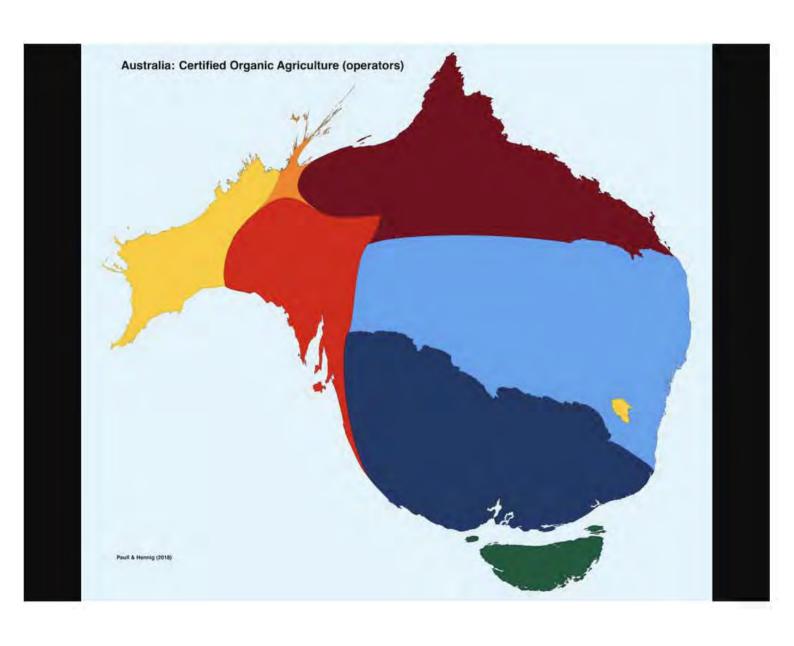
The World: 1.2% organic

Paull & Hennig (2016)

Data: Paull & Hennig, 2018





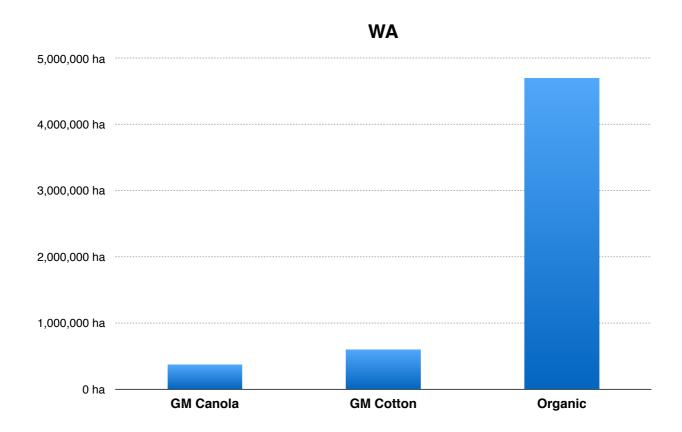


Journal of Organics, 5(1), 2018

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

Region	Organic hectares	Organic producers	Organic Operators
QLD	10,667,052	485	852
NSW	3,601,789	615	1,267
VIC	413,925	425	1039
TAS	4,769	72	127
SA	14,102,866	212	421
WA	4,698,791	165	287
ACT	2766	1	8
NT	2,153,079	23	27
Total	35,645,037	1,998	4,028

Table: Paull & Henning, 2018



ABCA, 2019; Paull & Hennig, 2018

10% Discount

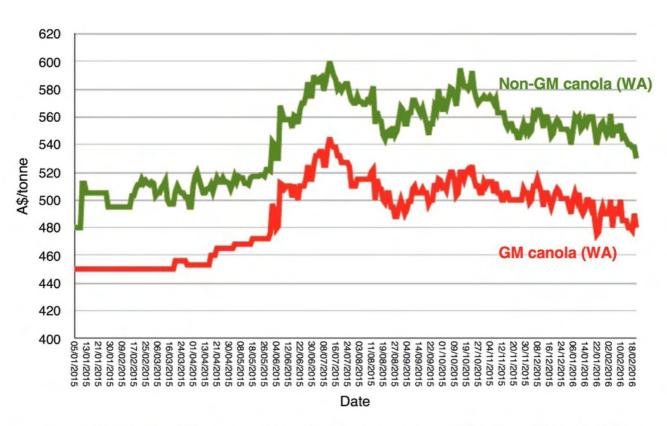


Figure 6. In WA, Non-GM canola consistently sells at a premium of 10% above GM canola (CBH Group Daily Contract Prices) (Paull, 2016).

Image: Paull, 2018











B.-d. Farm gears up for first China milk exports

Valerina Changarathil, The Advertiser May 3, 2016 12:30am - Subscriber only







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 line (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.

Advertiser, 2016

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ORGANIC

AWARD WINNING



RANGE



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+ View Product

CHEESE

bio-dynamic triple cream brie 280g

+ View Product

Paris Creek Farms
OBDANIC DAIRY
bip dupassic,
triple cream
ash brie

CHEESE

bio-dynamic triple cream ash brie 280g

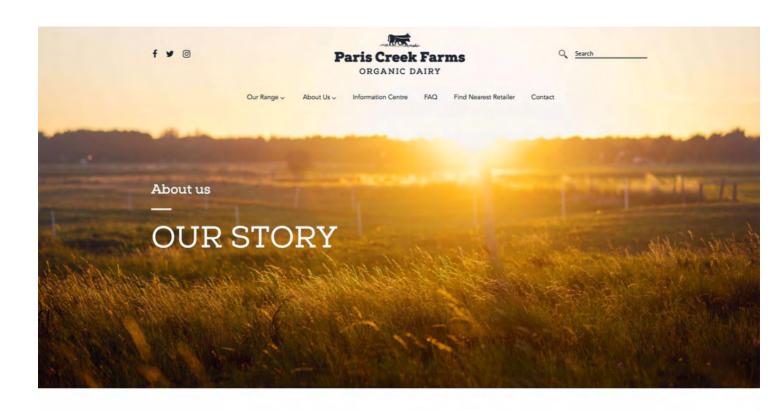
+ View Product

www.pariscreekfarms.com.au









FOOD FOR PURISTS

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

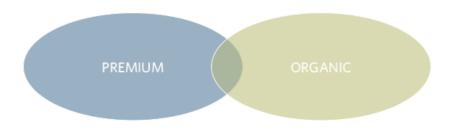
We admit it. We're obsessed with the delicious delights of dairy (and of alliteration). Here you'll find oodles of information about our range, and about sustainable bio-dynamic organic farming. Because that is the heart and soul of everything we do. It's our raison-d'etre as the French say. Our Thing,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

And we'll also share our thoughts with you on topics du jour such as probiotics and the advantages (many) and disadvantages (none) of 'no-added anything' dairy products like our Quark (You should see what it does for healthy gut flora, it's positively exhilarating! Try it if your tummy is a bit down in the dumps).

WWW.DAI'

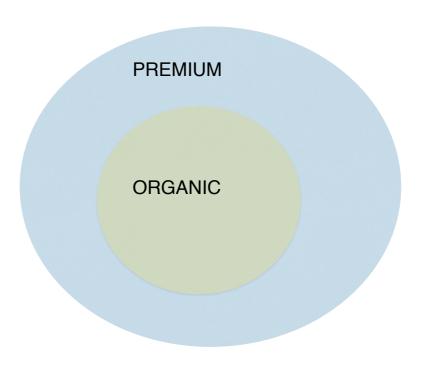
Do you agree?

In the food industry, premium and organic are related but different concepts



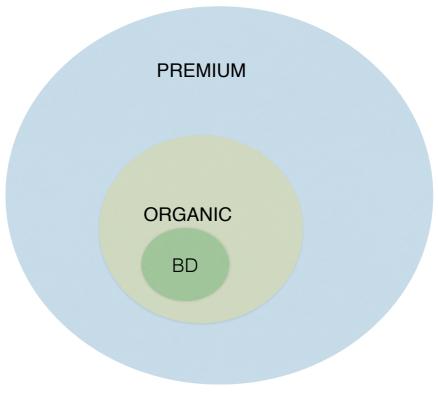
WA DAFF, 2016

Organic is Premium



Do you agree?

Organic is Premium



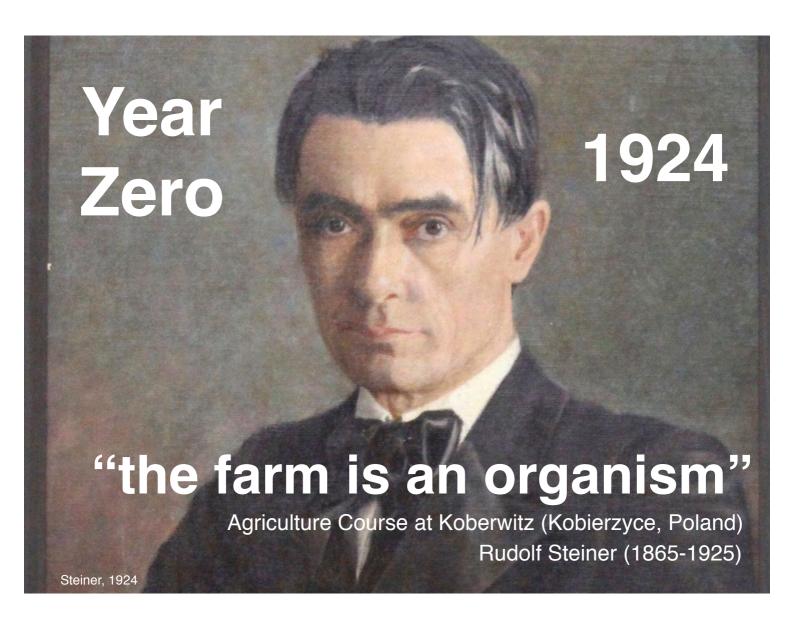


The path to organic...

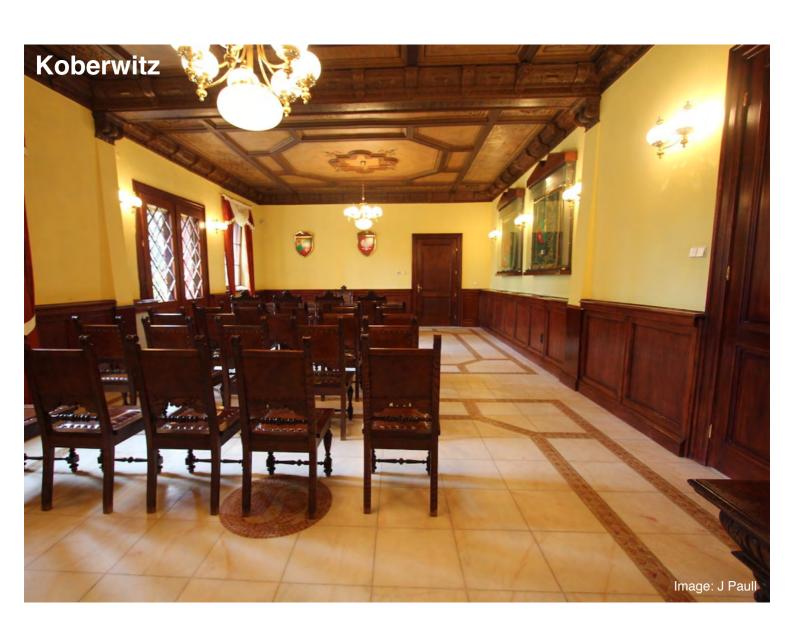
Dr Rudolf Steiner "Anthroposophic farming" 1924
Dr Ehrenfried Pfeiffer "Biodynamic farming" 1938
Lord Northbourne "Organic farming" 1940
Jerome Rodale OFG USA 1942
AOFGS Sydney 1944
IFOAM France 1972

Directions Workshop, Ocean Reef, WA 2019

Northbourne, 1940; Paull, 2010, 2014; Pfeiffer, 1938; Rodale, 1942.











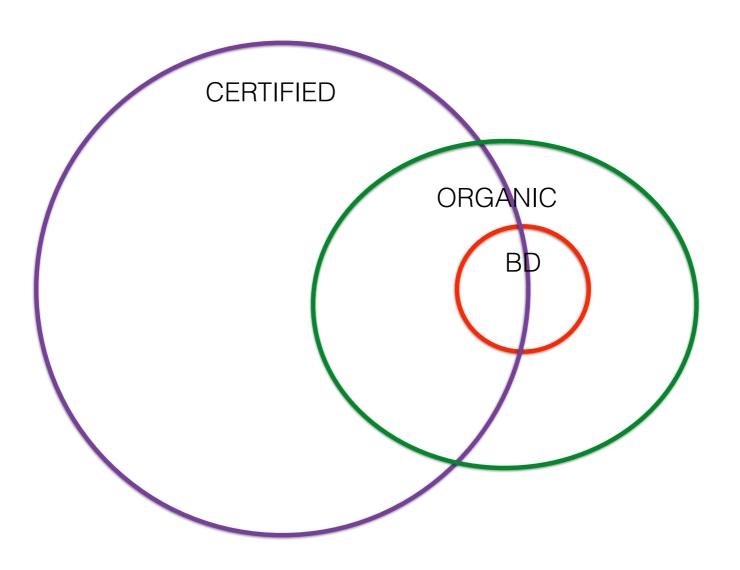
Getting to 'Organic'...

Table 1: The five founding organisations of IFOAM.

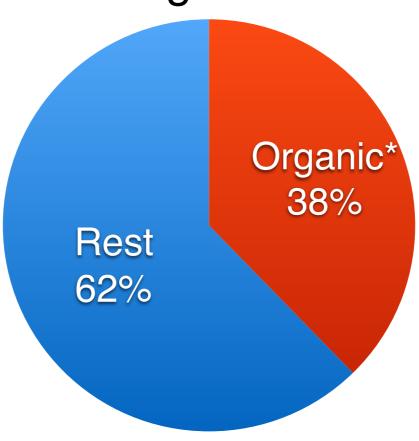
Organisation	Country
Nature et Progrès	France
Rodale Press	USA
Soil Association	UK
Soil Association of South Africa	South Africa
Swedish Biodynamic Association	Sweden

... 1972

Table: Paull, 2010

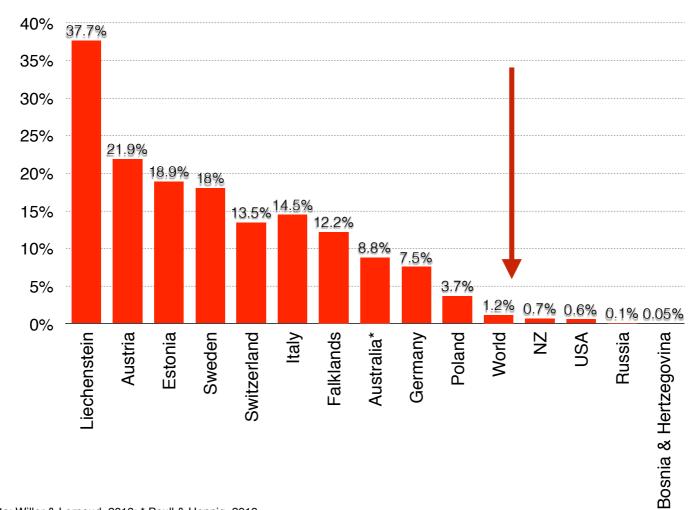


Liechtenstein Agriculture



*Certified Organic Hectares

data: Willer & Lernoud, 2018



Data: Willer & Lernoud, 2018; * Paull & Hennig, 2018

Year +95

2019

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



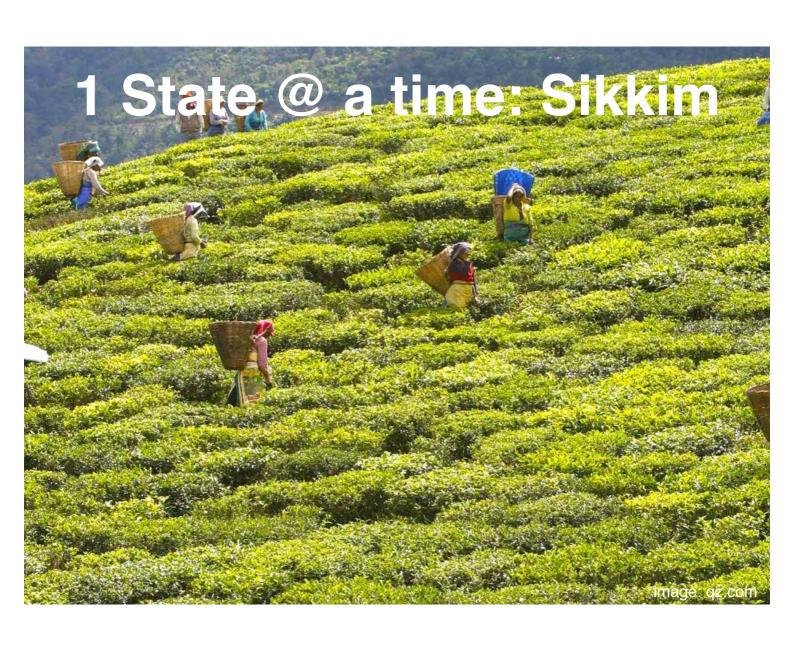
Goal set: 2003

1 State @ a time: Sikkim



1 State @ a time: Sikkim









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

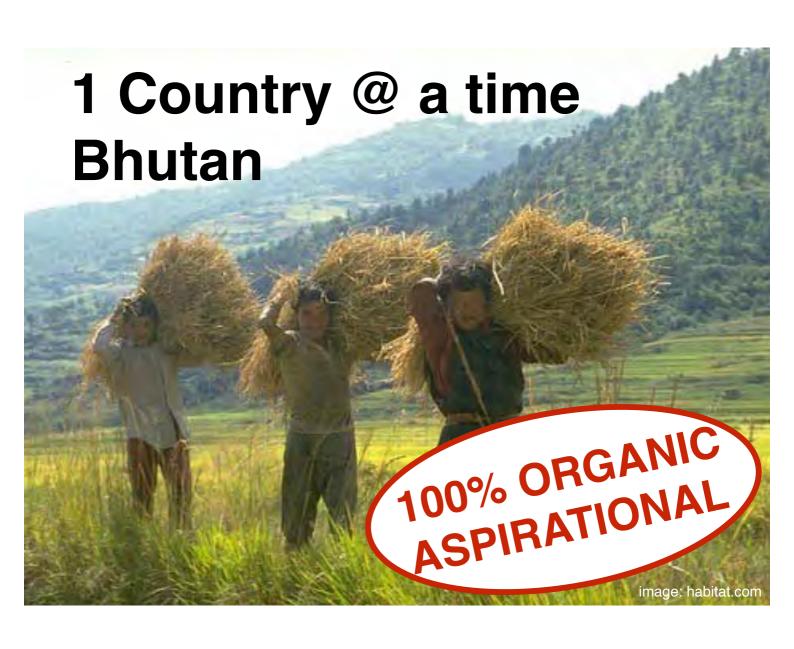


11 me-too Indian states ...



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

image: nmhs.org.in



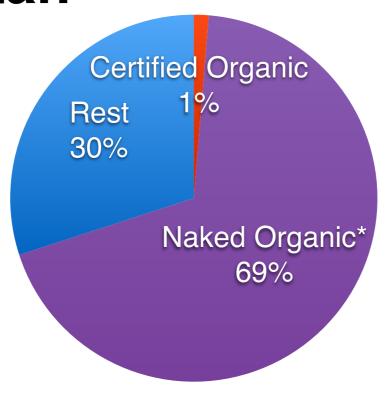




exoticjourneys.com

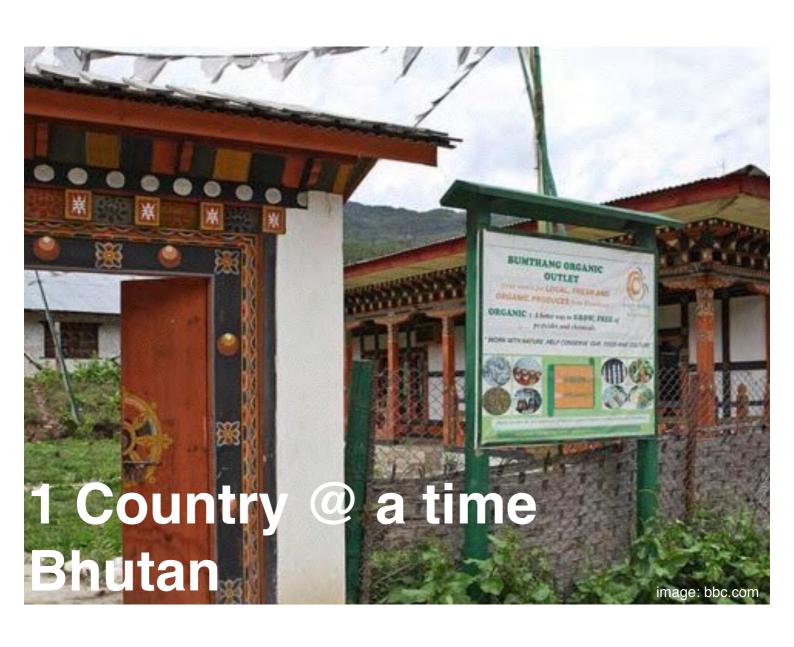


1 Country @ a time Bhutan



* organic without certification

Paull, 2017a certified data: Willer & Lernoud, 2017



1 Country @ a time Bhutan



image: future brand.com

1 Crop @ a time Dominican Republic





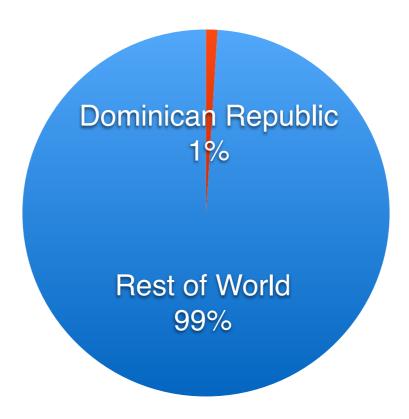
logos: piabanana.de

U.S. Banana Imports Over 1,800 thousand tonnes 600-1,000 thousand tonnes 300-400 thousand tonnes Under 100,000 tonnes Dominican Rep. No banana imports Share of Organic Bananas within the Imports Structure 100% 0% Average Annual Rates of **Growth of Organic Banana Imports** -30% and lower +30% and over up to +10% V-10%...-30% 1 - Guatemala 3 - Nicaragua 2 - Honduras 4 - Costa-Rica 2000 km (equat.) 1000 mi (equat.)

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

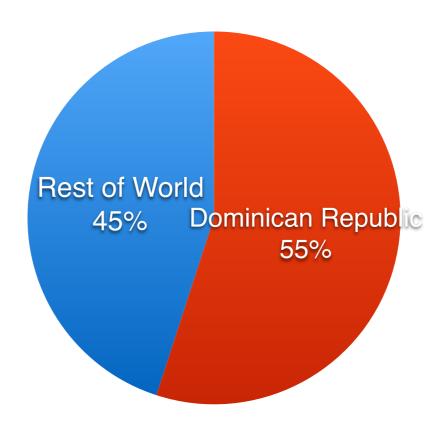
Source USDA data, IndexBox analysis

Global Bananas



data: FAO, 2017

Global Organic Bananas



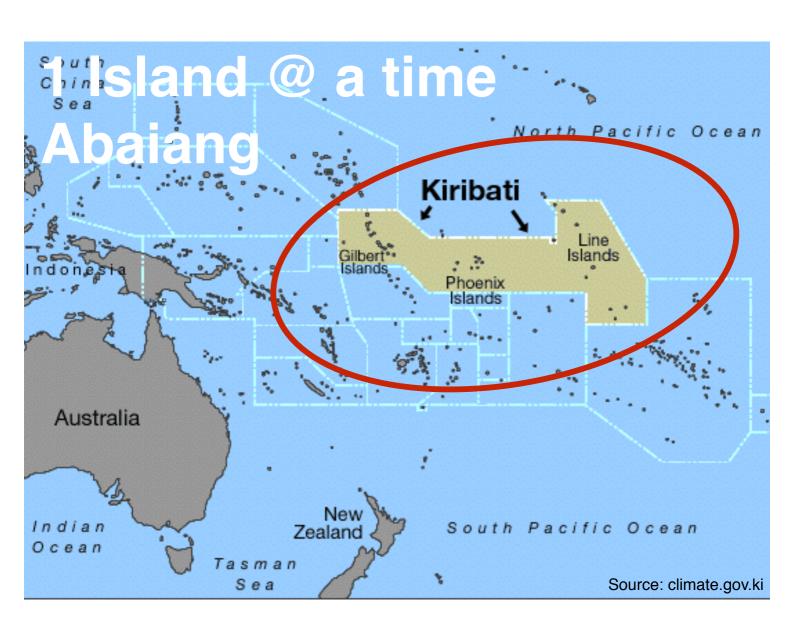
data: FAO, 2017



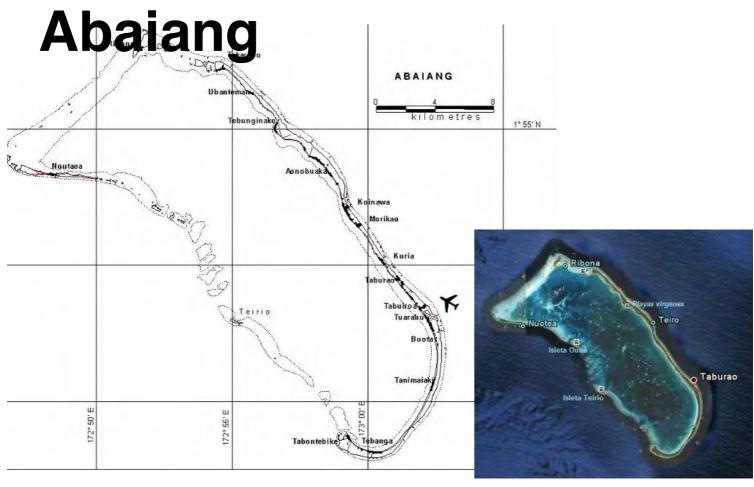


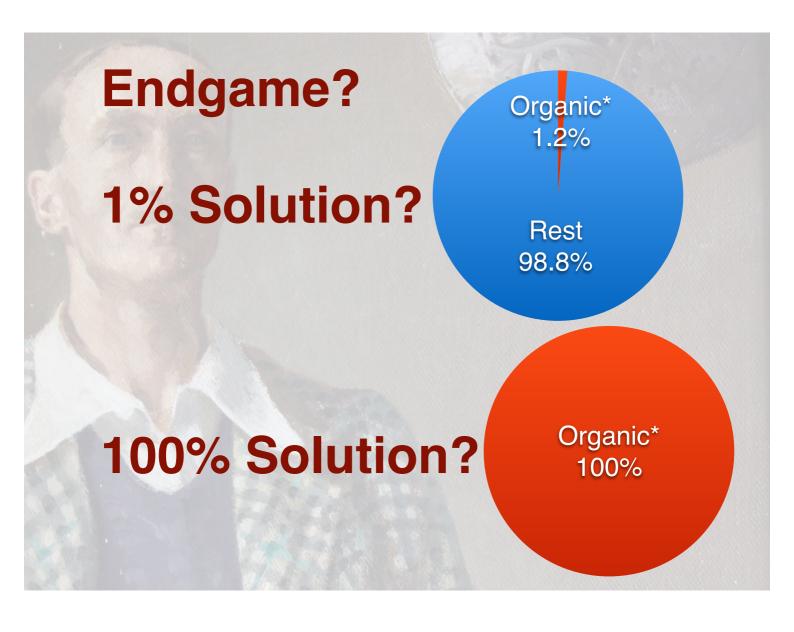






1 Island @ a time





Conclusion New strategies to reframe growth:

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



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

Image: J Paull

1942 Rodale USA

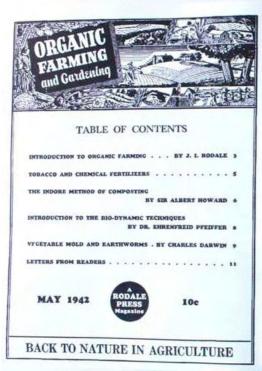
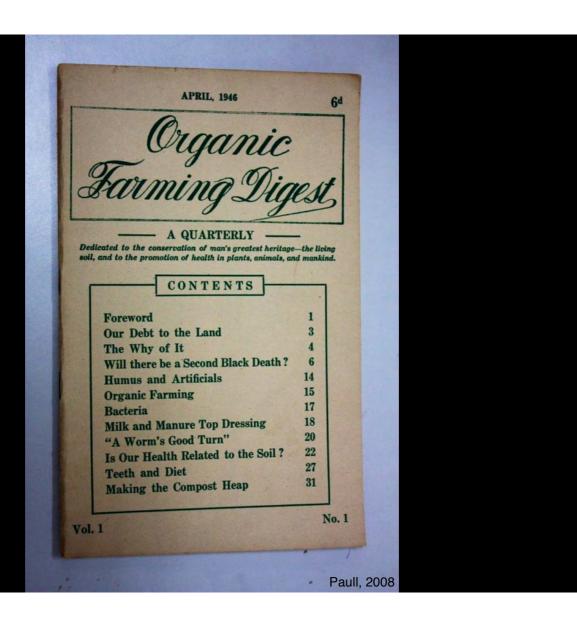




Image: J Paull

1944 AOFGS Australia



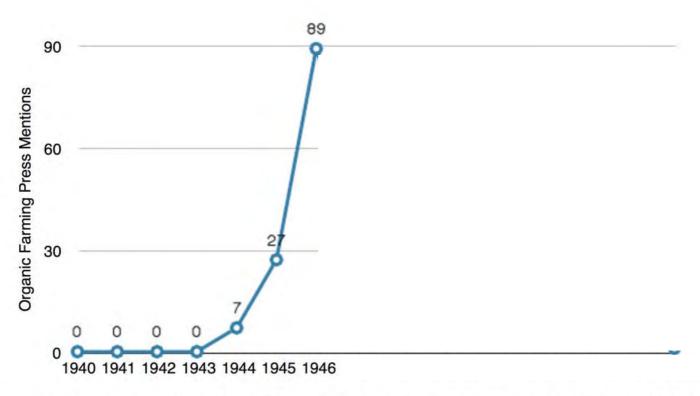


Figure 5. Number of mentions of Organic Farming in the Australian press before and during the life of the AOFGS.

Figure: Paull, 2017b

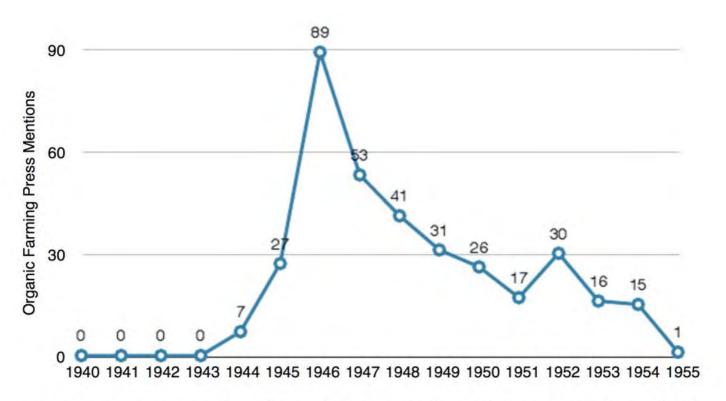
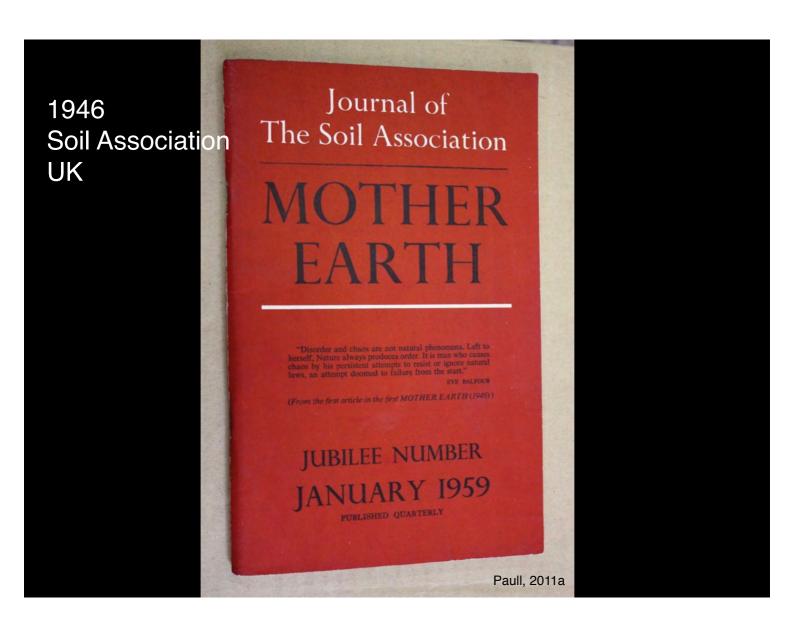


Figure 5. Number of mentions of Organic Farming in the Australian press before and during the life of the AOFGS.

Figure: Paull, 2017b











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Maps of Organic Agriculture in Australia

Paull, John and Hennig, Benjamin (2018) Maps of Organic Agriculture in Australia. Journal of Organics, 5 (1), pp. 29-39.



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Online at: http://www.academia.edu/37851248/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 accoun hectares (54%). Australia has 35,645,000 certified organic hectares which is 8.8% of Australia's agricultural land. In the present paper, three maps (cartograms, 'maps with attitude') of organic amaps illustrate the data, at the state and territory level, for (a) certified organic hectares (35,645,037 hectares) (b) certified organic producers (n = 1,998), and (c) certified organic operators (pro and territories are resized 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 country. The three organics maps are density-equalising cartograms (area cartograms) where equal areas on the map represent equal measures (densities) 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 organics across Australia, and, on a state by state basis, they suggest unrealised opportunities and potentials.

EPrint Journal paper

Type:

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

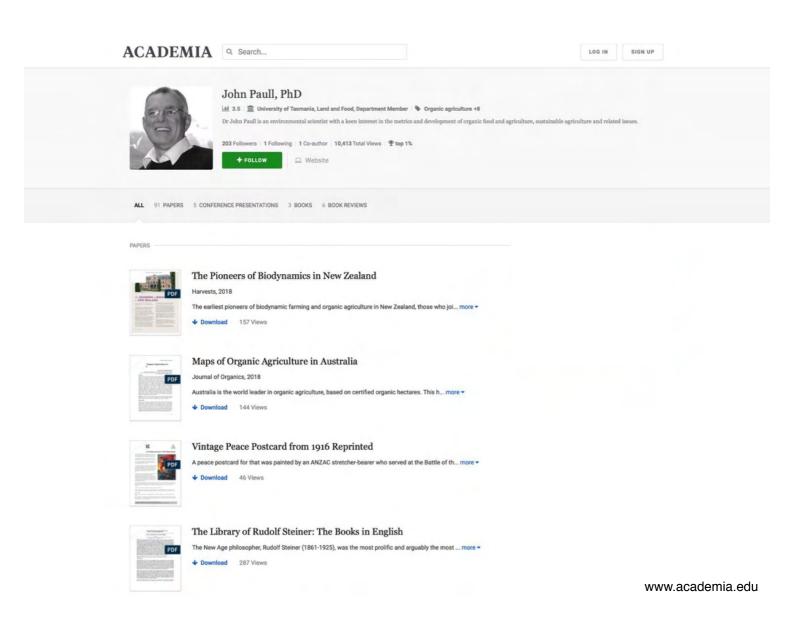
Subjects: Farming Systems

"Organics" in general > Countries and regions > Australia "Organics" in general > Countries and regions > World

Research Other countries

affiliation: Australia > University of Tasmania www.orgprints.org

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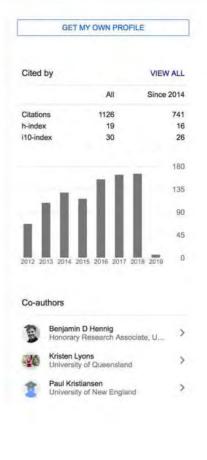


Q



John Paull <u>University of Tasmania</u> Verified email at utas.edu.au - <u>Homepage</u> organic agriculture organic food biodynamic farming environment sustainability

TITLE	CITED BY	YEAR	
Attending the first organic agriculture course: Rudolf Steiner's agriculture course at Koberwitz, 1924 J Pauli	74	2011	
China's organic revolution J Paull Marketing of Organic Products: Global Experiences, 260-275	63	2008	
The uptake of organic agriculture: A decade of worldwide development J Paull Journal of Social and Development Sciences 2 (3), 111-120.	62	2011	
From France to the World: The International Federation of Organic Agriculture Movements (IFOAM) J Paull Journal of Social Research & Policy 1 (2), 93-102	56	2010	
The farm as organism: The foundational idea of organic agriculture J Paull Elementals: Journal of Bio-Dynamics Tasmania, 14-18	56	2006	
Nanotechnology: the next challenge for organics J Pauli, K Lyons Journal of Organic Systems 3 (1), 3-22	50	2008	
The greening of China's food-green food, organic food, and eco-labelling J Pauli	49	2008	
Biodynamic agriculture: The journey from Koberwitz to the world, 1924-1938 J Paull Journal of Organic Systems 6 (1), 27-41	48	2011	
The lost history of organic farming in Australia J Pauli Journal of Organic Systems 3 (2), 2-17	40	2008	
The Rachel Carson Letters and the Making of Silent Spring J Paull Sage Open 3 (3), 2158244013494861	36	2013	



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Thank you ... Questions

NASAA WA Ocean Reef Sea Sports Club Ocean Reef, Perth, Western Australia 8 February 2019 Dr John Paull College of Science & Engineering University of Tasmania j.paull@utas.edu.au john.paull@mail.com

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Willer, H., & Lernoud, J. (Eds.). (2018). The World of Organic Agriculture: Statistics and Emerging Trends 2018: Frick, Switzerland: Research Institute of Organic Agriculture (FiBL) & Bonn: IFOAM-Organics International.



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:

Paull, J. (2019). Organic Directions: The World, Australia & WA. The National Association for Sustainable Agriculture Australia - Western Australia (NASAA WA), Keynote address, Directions Workshop, Ocean Reef Sea Sports Club, Ocean Reef, Perth, Western Australia, February 8.