



Organic news

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The organic grain industry – status report

Tim Marshall, TM Organics Pty Ltd

Access to organic grain, particularly wheat, has been a serious issue in Australia for much of the last 13 years. Millers have imported organic wheat, poultry and dairy farmers have paid high prices for feed grain, and some industry players have forecast the end of grain exports into the foreseeable future. This article looks at the health of the organic grain industry and what would be required to improve the situation.

Some history

Early adopters of organic grain growing had few markets for their produce and much organic grain was sold into conventional markets. A small percentage of the crop could be sold to home-millers, but there were few processing outlets. Some grain growers purchased mills and marketed their own product, usually stone-ground flour. Some of these businesses grew into current-day processors such as Four-Leaf and Kialla Farms. Others, such as the Beck family from Bordertown have disappeared.

By the early nineties there were other dedicated organic millers, including Wholegrain Milling at Gunnedah and a mill at St Arnaud, which is no longer in existence. During that decade the market for organic grains grew rapidly. New entrants included Blue Lake Milling and Laucke in South Australia, and the nationally distributed supermarket products appeared, the first being Uncle Toby's Vita Brits.

Figure 1. Alan Druce, pioneer organic grain grower from Ardlethan NSW. Alan has farmed organically for over 40 years and was one of the first certified organic grain growers in Australia.



Source: Tim Marshall

By the year 2000 grains were the major organic export from Australia, mainly to the UK and Europe, and the domestic market was growing rapidly, with many household name millers offering organic versions of their products. A wide range of grain and legume products were grown, including oats, chickpeas, red lentils, linseed and lesser known grains such as Kamut® and spelt. The growth of the grain industry was then severely retarded by nation-wide drought, and millers began to import organic grain, initially from Canada and the USA, Germany, Austria, and eventually from the Ukraine, Turkey and China.

During this period very high premiums were available for growers who could produce organic wheat with high protein suitable for bread making. Pasta makers paid over \$1,000 per tonne for durum wheat, and bread wheat reached a high of over \$800 per tonne.

These prices have now reduced considerably. The high dollar has almost destroyed the export industry, except for selected markets in Asia, and cheaper Canadian, Ukraine, Turkish and Chinese imports have limited the opportunity for price-taking in the domestic market.

Production systems

The difficulty of organic production varies greatly across the country, but there are organic grain growers in the WA wheat belt, SA Mallee, Central Victoria and Central West and north of NSW (Moree), SE Queensland and the Emerald district.

Fertility problems are largely solved for most organic producers; however one significant issue remains, being supply of adequate phosphorus in the combined conditions of dry soils and high pH. This has led to a significant withdrawal of organic producers from the Eyre Peninsula region of SA and most other Mallee soils, including the Wimmera region which was very hard hit by drought and organic grain production has almost completely retreated from that district. Weed control in broad-acre cropping is also a significant impediment to expansion of organic production.

Another group of organic grain growers thrived on the natural lakebeds of western NSW during the nineties, and in an irrigated growing system on the Lower Murrumbidgee floodplain that imitated natural flooding on the lakes. The shallow lakebeds were very well suited to organic production when they dry out because flooding kills most weeds prior to sowing, and a long-history of flooding produced fertile silt beds that required few fertility inputs. Large fish and waterbird populations also provided manure inputs that permitted sustainable yields, provided water was present in the system.

Supply problems

Guaranteed supply of organic grain has always been an issue for the industry, due to unreliable rainfall. Prior to the major drought decade at the start of the century, some part of the country had always been well watered, although transport of grain from Emerald to the southern states did add significant cost in some years. In the 2000's, most of the country was drought affected, supply was severely restricted, the exportable surplus disappeared entirely and some millers purchased grain from the northern hemisphere. The speed and size of this change is remarkable. Within a few years, sales of Australian grain to Switzerland ceased and German grain arrived in Australian ports.

The rise of the Australian dollar in the second half of the decade compounded problems. Importers were forced to shop around for the cheapest grain, but that caused problems for millers, who found it difficult to meet quality parameters and to cope with the need to alter labels from season to season. Price of organic retail products rose, and consumer sales declined.

Figure 2. Laucke Flour Mills Strathalbyn mill, S.A.



Photo credit: www.lambsearandhoney.com.au

Millers complained that traders were mixing grains of different protein and quality characteristics, to try to achieve the high prices available, and some lost confidence in the organic market. During this period Laucke Mills abandoned plans to dedicate one mill to organic production only and develop a significant export program, and Uncle Toby's withdrew its organic Vita Brits entirely.

Growers found that it was hard to maintain high protein unless they adopted long rotations, which they perceived to be too costly. One consequence of this was that some asked for very high prices. When they could not sustain these prices, some abandoned wheat in favour of other grains, some refocused their enterprises on livestock (the organic meat industry grew significantly since 2000), and some left the industry altogether.

As always, marketing is complex to understand, and a few new businesses have managed to develop during this period, such as Primal Foods Group. Peter Longhurst from Primal Foods says he has developed his trade by avoiding the commodity products. He says, "We are specialty traders and we avoid the products found in the big silos at the dock". Primal is not dedicated to organic only production, but do sell organic into Asia. Peter sees the biggest problem with developing this business is the lack of certified processors in Asia. He also suggests that "supermarkets make it difficult because they penalise suppliers who cannot supply to their contract, therefore the organic suppliers are inclined to lowball everything, to avoid fines and legal stoushes". He says, "so far we have managed to survive because of the size of our database, but it is difficult to ride out fluctuation in supply".

How much organic grain?

In good years, Australia can probably produce about 65,000 tonnes of organic wheat, and another 30,000 tonnes of organic barley, triticale, oats and

other grains, but in recent years supply has not exceeded 30,000 tonnes of wheat and 12-15,000 tonnes of other grains.

Price

Price is a significant complication. On the one hand growers believe that they are not well enough rewarded for their efforts, given the difficulty of producing organic wheat. Unsurprisingly they point to the retail price of organic flour (something like \$2,500 per tonne) and bread and question why their price has dropped back to \$280-400 per tonne. Millers point to the high cost of storage required to ride out production variability between seasons.

With the Australian dollar at parity, exports evaporated except to select Asia destinations, where close distance makes limited sales competitive. The general feeling is that exports will not rebound unless the dollar returns to US80c and will not thrive unless it falls to US70c.

What is required to revive the Australian organic grain industry?

The obvious solution for the woes of organic grain growers is reliably good seasons and an Australian dollar below US70c, but both of these expectations are unrealistic. Some improvement in growing systems is possible, in particular advances in GPS control of inter-row weed control. Organic agronomists want to see longer rotations and inclusion of more green manure crops, but growers are reluctant to adopt these techniques.

There are an increasing cohort of growers using biological and biodynamic methods who are not certified, but they are shy of certification while the three year conversion persists and strict prohibition on moving between organic and non-organic systems persist. Bruce Uebergang was an organic grower, who dropped his certification after nearly two decades. He says several wet years produced excessive weed competition. Johnson grass limited summer production and eventually turnip ruined winter cropping. He is now a biological producer (a category of growers that emphasise natural and organic methods, but are not constrained by standards). Bruce says, "grain is the forgotten element in organic growing. \$400 per tonne is too little reward for the effort of growing a specialized product, and organic must reward farmers better." He adds, "I see organic as a European based system, and although I would love to return to organic, the three year conversion is too long. I now grow GM cotton, which I think is a sustainable product, and it would take me five years to get back to organic. I am proud of my years as an organic producer, and if I lived in a reliable rainfall region

The Lower Murrumbidgee Growers

The Floodplain Organic Grain Growers (FOGG) imitated the naturally inundated lakebed growing system with controlled flooding of the Lower Murrumbidgee floodplain with water taken from the River at the Maud Weir. The water passes through one hundred kilometres of channels to progressively flood paddocks, which are then dry fallowed and later sown to organic crops. Cultivation controls the weeds that are not killed by flooding.

They collectively owned the largest area of contiguous certified organic cropland in the world (around 60 – 65,000 hectares) located on larger pastoral holdings and produced large crops that supported expansion of the domestic and export organic grain industry during the 1990's. They were severely drought affected for most of the 2000 decade however, and only produced occasional crops.

The Lower Murrumbidgee growers recently sold their water licenses back to the government. Some of their land will enter various forms of conservation uses, including conversion to State Conservation Areas or covenants on private land and the remainder will return to dryland grazing.

While this will be a blow to organic grain production, it will provide growers in other areas with an opportunity, and will benefit the health of the river system, due to return of water. Native birds will also benefit, because the channels they built permit flooding of large areas to specified depth, which provides a breeding stimulus to waterbirds.

Tim Marshall

The lower Murrumbidgee floodplain



Photo Source: Ella Rubeli

like New Zealand, I would still be organic, but it is too difficult here”.

The future

Organic livestock markets are growing rapidly and demand for feed grain will continue to grow. New grains such as Quinoa have created opportunities for Tasmanian growers. The loss of the Lower Murrumbidgee growers will definitely impact the industry, and will create new opportunities for some. If western NSW lakebeds receive water, domestic supply will improve. The prospects for other areas to increase organic grain production rely upon significant advances in growing technology, such as GPS weed control, and better financial rewards, which may eventuate from price improvement or a continuing fall in the Australian dollar. It is likely that organic cereal production will move north into Queensland, adding to transport costs for southern millers and feed grain buyers.

For more information contact: Tim Marshall, TM Organics Pty Ltd: Web
<http://www.tmorganics.com/> **Email:**
Tim@tmorganics.com

On-line organic information

Robyn Neeson, NSW DPI, Berry

It is often said that one of the largest inputs in organic farming is information. However, finding information that is both reliable and relevant can be one of the biggest hurdles for farmers wishing to convert to organic farming.

The following is an overview of some sources of ‘organic’ information, both in Australia and overseas, that may be useful for organic farmers, students and researchers.

Government sources

Lack of available funding for research into organic farming systems has meant there is limited scientifically validated information available which is specific to Australian conditions.

Prior to 2012, the federally government funded, Rural Industries Research and Development Corporation (RIRDC) had a stand alone research program dedicated to funding research in organic farming systems in Australia. Whilst still maintaining an interest in organics, and open to considering proposals for collaborative investment, RIRDC no longer maintains their organic program. The RIRDC website does, however, contain a significant number of publications produced as a result of this research investment. These are available as free downloads and as hardy copy

purchase: www.rirdc.gov.au/research-programs/rural-people-issues/organic-farming.

RIRDC also established the Organics Knowledge Hub: www.organicshub.com.au/OKH/Home.html. This website provides a central searchable resource for a range of information concerning organic agriculture. The Organics Knowledge Hub was transferred from RIRDC to the Organic Federation of Australia (OFA) in 2013.

Some State government departments have information resources dedicated to organic farming.

Since 1992, NSW Department of Primary Industries (NSW DPI) has been providing information and support to the organic industry through policy, research, advisory and education activities. Organic specific information can be found on the NSW DPI website:
www.dpi.nsw.gov.au/agriculture/farm/organic.

Other States with websites dedicated to organic farming include:

Victoria Department of Environment and Primary Industries: www.dpi.vic.gov.au/agriculture/farming-management/organic-farming

Tasmania Department of Primary Industries, Parks, Water and Environment:
www.dpiw.tas.gov.au/inter.nsf/ThemeNodes/SSKA-5J9689?open

Western Australia Department of Agriculture and Food:
www.agric.wa.gov.au/PC_92627.html?s=810029578

Industry sources

Information obtained directly through industry groups and individuals can provide both practical and local knowledge.

Organic Trust Australia – Research and Education, was established in 2011 to enable Australia to invest in scientific research and education in areas relevant to organic and bio-dynamic agriculture. Organic Trust Australia manages funds received from private and public sources and donations are tax-deductible. More information on the Trust can be found at:
<http://organictrustaustalia.org.au/index.html>

The Centre for Organic Research & Education (CORE) is a dedicated marketing and research network for participants in the resource recovery, organic and clean-tech sectors. See:
<http://corebusinessnet.com/>

Organic farming groups and organic certification organisations can be a good source of 'local' information. Many have websites containing information on organic farming and which promote field days and other activities relevant to organic producers.

State organic farming groups

NSW:

Sapphire Coast Producers Association – Organics

<http://scpa.org.au/scpaorganics.html>

Tweed Richmond Organic Producers Organisation

www.tropo.org.au/

Hunter Organics

www.hunterorganicgrowerssociety.org.au/

Biodynamic Agriculture Australia Ltd.

www.biodynamics.net.au/

Biodynamics24

<http://biodynamics2024.com.au/>

Victoria:

Victorian Organic Industry Committee

www.victoriaorganic.com/

Organic Dairy Farmers Australia

www.organicdairyfarmers.com.au/

Organic Agriculture Association Inc.

www.organicagriculture.asn.au/index.htm

South Australia:

Organic Federation of Australia South Australia Branch

www.ofa.org.au/pages/South-Australian-Branch.html

Western Australia:

Organic Association of Western Australia

www.ogawa.org.au/index.php

Tasmania:

The Organic Coalition of Tasmania

www.oct.org.au/

Bio-Dynamics Tasmania

www.biodynamicstas.com/index.php?s=5

Other groups (National)

Australian Organic

<http://austorganic.com/>



Organic Federation of Australia (OFA)

www.ofa.org.au/

The Ecological Agriculture Australia Association (the EAAA)

<http://ecoag.org.au/>

Soils for Life

www.soilsforlife.org.au/about.html

Healthy Soils Australia

www.healthysoils.com.au/index.html

Permaculture:

Milkwood Permaculture

<http://milkwoodpermaculture.com.au/>

The Permaculture Research Institute

www.permaculture.org.au

Organic Certification Organisations

AUS-QUAL Limited (AUSQUAL)

www.ausqual.com.au/certification-services/organics.aspx

Australian Certified Organic

<http://aco.net.au/>

Bio-Dynamic Research Institute

www.demeter.org.au

NASAA Certified Organic

www.nasaa.com.au/

Organic Food Chain

www.organicfoodchain.com.au

Tasmanian Organic-Dynamic Producers Inc

www.tasorganicdynamic.com.au/



Organic farming consultants

Australia has a number of experienced organic farming consultants. Having a direct contact with organic farmers enables consultants to keep up to date with issues which may arise and with practical techniques being trialled (successes and failures). Many have direct links with organic industry groups (such as certification organisations) and their contact details can be sourced through them.

Universities, TAFE and other educational Institutions

A number of courses relevant to organics are on offer for those wishing to obtain formal qualifications or update their knowledge and skills in organic farming.

UNE: Organic Agriculture - Principles and Practice

<https://my.une.edu.au/courses/units/AGRO501>

CSU: Bachelor of Ecological Agricultural Systems

www.csu.edu.au/courses/undergraduate/ecological_agriculture/course-structure

UWA: Organic Agriculture

<http://units.handbooks.uwa.edu.au/units/agri/agri5504>

TAFE NSW:

<http://necorganicfarm.riverinainstitute.wikispaces.net/Organic+Farming+Course+Details>

<http://northcoast.tafensw.edu.au/courses/Pages/coursesdisplay.aspx?courseNo=11546>

TAFE Victoria:

www.advancetafe.edu.au/pages/courses/course.asp?courseid=5168

See also:

Australian Organics schools program:

www.organicschools.com.au/

Soils Food Web Institute

www.soilfoodweb.com.au/

On-line journals, magazines and newsletters

Some of the publications available for organic farmers, researchers and gardeners include:

NSW DPI Organic News

www.dpi.nsw.gov.au/aboutus/resources/periodicals/newsletters/organic-news

Journal of Organic Systems

<http://organic-systems.org/who/index.html>

Australian Organic News

<http://austorganic.com/newsletters/>

Australian Organic Certification News

<http://aco.net.au/index.php/certification>

ABC Organic Gardener Magazine

www.organicgardener.com.au/

Acres Australia

www.acresaustralia.com.au/

Acres USA

www.acresusa.com/

International websites

There are a number of international websites which are worthy of investigation by organic farmers. Many of the strategies may be adapted to some regions and farming systems within Australia.

New Zealand:

Organic Pathways

www.organicpathways.co.nz/community/story/16.html

Organic Dairy and Pastoral Group

www.organicpastoral.co.nz/Home.html

Organic Farm NZ (OFNZ)

www.organicfarm.org.nz/

U.S.A.:

National Sustainable Agriculture information Service

<https://attra.ncat.org/>

Sustainable Agriculture Research and Education

www.sare.org/

Rodale Institute

<http://rodaleinstitute.org/>

Leopold Centre for Sustainable Agriculture

www.leopold.iastate.edu/

Scientific Findings about Organic Agriculture

www.organicag.org/organic/

U.K.

U.K. Soil Association

www.soilassociation.org/

Elm Farm Research Centre

www.efrc.com/

Organic Centre Wales

www.organiccentrewales.org.uk/index.php

Europe

Research Institute of Organic Agriculture (FiBL)

www.fibl.org/en/fibl.html

International Society of Organic Agriculture Research

www.isofar.org/index.html

IFOAM Organic Information Hub

<http://infohub.ifoam.org/home>

Organic Directories

A number of websites offer Directories which explain organic principles and locate organic services for consumers. In Australia, these include:

Australian Organic Directory

www.australianorganicdirectory.com.au/

Organic Directory Australia

<http://enviro.org.au/organics-directory-australia.asp>

The Green Directory

<http://greend.com.au/>

The Organics Directory

www.theorganicsdirectory.com.au/history-and-people.aspx

True Food Network

www.truefood.org.au/resourcesandinfo/

CSA's and Farmers Markets

Many urban and regional consumers have embraced locally grown organic products through farmers markets and CSA (Community Supported Agriculture) food cooperatives. Some of the more recognised Farmer's markets and CSA's in Australia include:

Organic Food Markets

www.organicfoodmarkets.com.au/

Australian Farmers Market Association

www.farmersmarkets.org.au/

Food Connect

www.foodconnect.com.au/

Community Supported Agriculture (CSA) Toolkit

www.csatoolkit.channelliving.org.au/

Other:

Australian Community Gardens Network

<http://communitygarden.org.au/acfcgn/>

Note: Internet sources whilst helpful may quickly become outdated. At the time of writing these links were current.

For more information contact: Robyn Neeson,
robyn.neeson@dpi.nsw.gov.au



News, publications, commentaries & events

News & commentaries

NSW organic food producer wins national innovation award

A woman who established a fast growing organic food company when she was unable to find suitable products for her young children with allergies, was recently named winner of the Business Innovation Award at the 2013 Telstra Australian Business Women's Awards at Crown Melbourne. Anni Brownjohn founded Ozganics Organic Foods which has grown into the family owned The Right Food Group Pty Ltd in her regional NSW town of Murwillumbah 14 years ago as she believed that people should not have to compromise on taste and value just because they have a food intolerance or allergy.

With no formal qualifications, she undertook a range of short courses on topics such as nutrition and naturopathy, read widely and spent many hours creating and testing her organic food produce, which today consists of pasta, simmer sauces, dressings, marinades and spreads.

She also invested in enhancing her business skills, participating in as many lectures and business seminars as possible, while trying to build her organic food business.

"Fourteen years later, The Right Food Group is supplying across Australia and is exporting to 20 countries," Ms Brownjohn said.

"I have demonstrated that, by perseverance, women can succeed against huge odds and through friendship we can support each other."

Ms Brownjohn said the growing consumer demand for Asian-style noodle products, combined with increased health awareness, led to the development of her Organic Noodle Kitchen range which is being presented to major retailers on four continents after its successful world launch in January 2013.

She says she is now in the final stages of developing the world's first certified organic instant noodles.

Other winners at the 2013 Telstra Australian Business Women's Awards were: Telstra Australian Business Woman of the Year, Rosemary Vilgan, the CEO of one of the largest Superannuation Funds in the country, QSuper; Darwin Optometrist Helen Summers; Laura McBain, CEO of Launceston-based organic baby and infant formula producer Bellamy's Organic;

Figure 3. Anni Brownjohn, founder of The Right Food Group and winner of the Business Innovation Award at the 2013 Telstra Australian Business Women's Awards.



Source: www.getfarming.com.au

and, Lieutenant Commander Kelly Haywood a Royal Australian Navy Officer and Head of Department of HMAS Toowoomba.

Kate McKenzie, Telstra Chief Operations Officer and Telstra Business Women's Awards Ambassador, said the Awards winners in 2013 were chosen from an amazing group of finalists whose passion, leadership and innovation provide inspiration and incentive for other business women forging their own careers.

"Judges said Anni Brownjohn was a focused, committed owner of a business that was fast growing because of her ability to be at the forefront of major consumer trends both locally and in export markets," Ms McKenzie said.

"While they say Anni is fun, driven and a dreamer, she is also an articulate business woman who is proud to be a regional Australian."

Source: www.getfarming.com.au

Increase in organic beef applications

Australian Certified Organic has recorded a 25 per cent increase in applications for organic certification from beef producers.

The certifier says it has received 60 requests from beef operations in the last two years.

Australian Certified Organic's Chief Certification Officer Michael Baker says, "Livestock applications are coming from western Queensland, western New South Wales, South Australia, Western Australia and the Northern Territory."

Andrew Walker from Moonbong Partnership, a third generation family beef operation based at Tambo in Central West Queensland, applied for organic certification in November 2012.

“We don’t use buffalo fly spray and hardly any other chemicals for that matter when we finish the bullocks, so we thought we might as well be finishing them with organic status,” Andrew says.

“We decided to become organically certified because the returns are much more significant. We can expect to get 55 cents more per kilo for a two tooth bullock weighing 300-340 kilograms, from \$3.55 that we currently receive to \$4.10 with organic status.”

The CEO of Arcadian Organic & Natural Meat Company, Alister Ferguson, says more beef producers are getting organic certification because of the increased profit margin and demand for this product.

“Eight years ago when we opened our doors, we started with 66 head of cattle a fortnight. Earlier this year we were at 1000 a week,” says Alister.

“The reason is that producers can see a 40 per cent premium in it for them. They can also see huge markets, like the US, demanding organic beef with these orders still struggling to be filled. Our programs are currently growing by 20 per cent each year. The great unknown is China, which is just starting to come on board.”

Media source: Kathy Cogo, Australian Organic, kathy.cogo@austorganic.com, 07 4771 3714 | 0466 015 183

Global organic food and beverage to reach \$187.85bn by 2019

According to a new report, the global demand for organic food and beverages was valued at \$70.70bn in 2012 and is expected to reach \$187.85bn by 2019, growing at a CAGR of 15.5% from 2013 to 2019.

The global market has witnessed growth in recent times due to increasing consumer health awareness. In addition, widening distribution channels and increased government regulation and intervention are some of the other factors contributing towards the market growth. Shorter shelf life of the organic products and high prices of the raw materials are the major growth barriers of the market. However, increased R&D efforts for new products development provides huge market opportunity for the market players.

In 2012, organic food dominated the global market and accounted for 80.6% share of the overall demand for organic products. Organic fruits & vegetables led the food segment and accounted for 38.9% share of the market and are expected to maintain their dominance over the next six years.

Organic dairy products are expected to grow at a compound annual growth rate of 14.1% from 2013



to 2019 due to advancement in technologies which provide products with an extended shelf life.

Organic meat, fish & poultry products occupied a very small share in the current market but are expected to increase their market share in future due to development of new and innovative products in this segment and is expected to exhibit the fastest growth rate of 14.6% from 2013 to 2019.

Organic coffee & tea and non-dairy beverages were the market leaders in the organic beverages space. Organic coffee & tea accounted for 39.8% of the total beverage revenue share in 2012.

Organic beer & wine beverage are expected to grow at a rate of 24.5% from 2013 to 2019. Organic beverages markets are witnessing growth due to increasing consumer awareness regarding health benefits associated with it. Moreover, due to their finished quality and better formulation flexibility, the market is witnessing a steady rise, which leads them to gain a significant position in the market.

North America dominated the market and accounted for over 48% of the global demand in 2012 followed by Europe which accounted for 45.6% share for the same year. This dominance is driven by new product launches and widening distribution channels. Growing demand for organic food, increasing spending habits, life quality, and changing trends in ethnicity are expected to drive organic food & beverages market in Asia Pacific.

Most of the industry participants have been relying on third party distributors to reach their target customers. However, few giant companies have their own distribution and marketing network across the world. Some of the major players of the market include Hain Celestial Group Inc, Amy's Kitchen Inc. and Organic Valley.

Transparency Market Research’s 100 page report is titled ‘Organic Food (fruits & vegetables, meat, fish & poultry products, dairy products, frozen & processed foods, & others) & Organic Beverages (non-dairy beverages, coffee & tea, beer & wine, & others) Market – Global industry analysis, size, share, growth, trends and forecast, 2013 – 2019.’

Source: *Bill Bruce, 23 October 2013 FoodBev.com. Transparency Market Research. See: www.transparencymarketresearch.com/organic-food-beverages-market.html*

'Natural' labels are getting axed: What went wrong?

Seemingly, the use of the word 'Natural' to describe food products is finally catching up with U.S. manufacturers.

This news item by Paul Conley, Contributing Editor Food Dive, Nov. 18, 2013:

Back in 2010, Ben & Jerry's agreed to stop using the phrase "all natural" on its ice cream.

It was a weirdly prophetic sort of move. There was probably no brand on Earth that had put more effort into building a reputation as grounded, non-corporate and connected to a simpler, utopian vision. In other words, there was no other brand on the planet that was more "natural." Ben & Jerry's wasn't organic. Organic labels have a legal definition, and the ice-cream maker wasn't claiming it met that definition. Rather, Ben & Jerry's was using a term with no legal definition but which fit the company's branding.

Natural language elsewhere

'Patagonia' had done something similar in clothing, and 'Simple' had done something similar in publishing. But in food, it seemed that Ben & Jerry's reputation for giving equal weight to both profit and purpose put the ice-cream company in a space of its own. Even organic food companies that adhered to the legal standards required by the use of the word organic on labels didn't feel quite so ... natural.

But starting in 2002 the Center for Science in the Public Interest began to argue that if Ben & Jerry's wanted to call something "all-natural," than it had to

be composed entirely of natural things. Ben & Jerry's used hydrogenated oils in its frozen treats; and hydrogenated oils weren't natural, according to The Center.

The disagreement

Since the U.S. government doesn't take a stand on what is or isn't natural, things were at a standstill. The Center and Ben & Jerry's just disagreed. But then, in 2010, Ben & Jerry's decided to stop using the phrase. The counter-culture icon seemingly had no interest in arguing that all of matter is natural, or that "natural" is a reference to approach and belief about how to make food and not about the use of organic ingredients, or that the government needs to make a ruling on which ingredients are natural.

Ben & Jerry's seemingly didn't want to fight about "all natural" at all.

Because Ben & Jerry's knew the world of food was about to change.

Lawsuits and label changes

And change it has. By 2013 it was if everyone in America (or at least everyone in California) was suing every company that used "natural" on a label. And in recent weeks an increasing number of those companies have taken the same stance that Ben & Jerry's did and decided not to fight.

So here's the thing

The use of the term "natural" has become a liability. And that's because food makers have used the term in an unnatural fashion. And there's simply no going back. The lawsuits will keep coming. And more and more companies will follow Ben & Jerry's lead and just give up on the term.

And by this time next year we expect that spotting a "natural" label at the supermarket may feel like a supernatural experience.

Source: Food Dive. Paul Conley. November 18, 2013. See full article: www.fooddive.com/news/natural-labels-are-getting-axed-what-went-wrong/195388/

Union cautious about unpaid labour conditions of Willing Workers on Organic Farms (Wwoof) scheme

A union representing workers in the Northern Territory has raised concerns about the Willing Workers on Organic Farms scheme, known as Wwoofing.

The scheme is popular with backpackers who trade their labour for food and accommodation and need to work for 88 days in a rural area to qualify for a second working holiday visa in Australia.





United Voice union spokesman Matt Gardiner says the scheme can work if it is not undercutting paid workers, and the Wwoof organisation ensures unpaid workers are protected.

"If an employee [says] you can get a free labour source, I do not know many employers who would say no," he said.

"But ... it should be done responsibly and policed through the organisation."

He says the farms must have insurance for its workers and have a workers' compensation scheme in place.

Mr Gardiner says he has heard complaints about substandard food and accommodation from backpackers participating in the scheme.

He says Wwoofers exchange their labour for food and a place to stay, and employers need to ensure both are adequate.

"[Some are] staying in dilapidated humpies rather than actually proper accommodation," he said.

"They do not actually have access to good food all of the time, or the food might not be to the standard they are used to.

"If you are giving up labour for these things, you expect to actually get a decent return for that labour."

Traci Wilson-Brown from Wwoof Australia says her organisation receives a tiny number of complaints.

She says Wwoofers are covered by insurance for up to \$10,000 but has never heard of a claim anywhere near that.

"There are a lot of people who call what they are doing Wwoofing, without being registered, and we can't police that," she said.

"Where they are [registered] we expect them to follow our guidelines.

When they are not and we have complaints about them, we follow them up."

Ms Wilson-Brown says people wanting to participate in the Wwoof scheme should check that farms are registered.

Source: By Xavier La Canna and Rick Hind First for ABC News. First posted Jan 2, 2014.

www.abc.net.au/news/2014-01-02/willing-workers-on-organic-farms-scheme-caution-from-united-voi/5182554

USA and Australia partner on responsible cotton

Cotton Australia and Cotton Incorporated have launched the new 'Cotton Leads' program, which aims to highlight the responsible and transparent way that cotton is grown in Australia and the United States.

The new initiative includes conventional and organic upland and pima cotton grown in Australia and the United States, which together account for around 17 per cent of global cotton production. The two partners emphasise the new program will complement, rather than compete with, existing cotton sustainability certification programs.

Source: EcoTextile News (Wednesday, October 16, 2013).

www.ecotextile.com/2013101512258/materials-production-news/usa-and-australia-partner-on-responsible-cotton.html

10 ancient grains to watch: from Kamut® to quinoa

Wheat may be a staple in many diets worldwide, but there's a whole host of super grains - some well-known and others still under the radar - each with their own unique set of benefits. From spelt to farro, teff, Kamut®, chia and quinoa, FoodNavigator-USA takes you through 10 of the hottest super grains and their health benefits in this Special Edition: www.foodnavigator-usa.com/Markets/10-ancient-grains-to-watch-from-kamut-to-quinoa?nocount



Feedback: Condensed Tannins, their role in livestock nutrition and worm control

The last edition of 'Organic News' contained a review on condensed tannins and their role in internal parasite control.

These responses were received which provide further comment on some of the points raised in the article:

Feedback from David Leathwick AgResearch, Palmerston North NZ:

"I am less convinced of the ability of condensed tannins (CT) to suppress worm populations. Somewhat clearer however is their ability to reduce the symptoms of parasitism.

I was involved in a lot of the CT work done by John Niezen and Abdul Molan and, although there was an apparent reduction in faecal worm egg count (FEC) in nearly all cases, when we calibrated the FEC method to allow for the different composition of the faeces, the differences disappeared. Faeces from animals fed CT plants are quite different from those grazing more conventional pastures i.e. it is more difficult to float eggs out of faeces from CT fed animals.

We also did slaughter trials with CT plants which showed no difference in worm burden. See: Waghorn T.S., Molan A.L., Deighton M., Alexander R.A., Leathwick D.M., McNabb W.C. & Meagher L.P. 2006. In vivo anthelmintic activity of *Dorycnium rectum* and grape seed extract against *Ostertagia (Teladorsagia) circumcincta* and *Trichostrongylus colubriformis* in sheep. New Zealand Veterinary Journal, 54(1): 21-2."

Feedback from Dr Steve Love, Veterinarian / Research Officer (Parasitology), NSW DPI:

"Robyn Neeson in her overview mentions that CTs can have variable effects and their modes of action with respect to worms or their consequences may vary.

Here is some of the discussion by Waghorn and others (2006):

'One group of forage species which has received considerable attention from a parasite control perspective is the group of plants which contain moderate to high levels of CT. Extracts from plants (Athanasiadou et al 2000; Molan et al 2000ab, 2003ab; Hordegen et al 2003) and fresh forages (Niezen et al 2002a; Marley et al 2003ab; Min et al 2004) have been tested against a number of species of parasite either *in vitro* or *in vivo*.

However, results have not always been consistent between experiments (Butter et al 2001) and

Figure 4 Sheep grazing chicory



Photo source:

www.fwi.co.uk/articles/17/06/2013/139532/sheep-grazed-on-chicory-show-reduced-worm-count.htm

extracts which have shown promise *in vitro* have sometimes shown contradictory results *in vivo* (Athanasiadou et al 2001ab).

The effects of forages containing CT on gastrointestinal parasites have proved variable in sheep (Waghorn and Molan 2001; Niezen et al 2002ab), goats (Paolini et al 2003, 2005) and deer (Hoskin et al 2000). Reasons for this variation in activity include:

- differences between continuous feeding or grazing (the usual field condition) and pulse or restricted feeding (the norm for indoor trials) (Athanasiadou et al 2001b);
- different forages leading to different grazing habits and/or different distributions of parasitic larvae (Hutchings et al 2003);
- CT binding to establishing third-stage larvae (L3), inhibiting motility (Hoskin et al 2000);
- CT interfering with neurophysiology or neuromuscular coordination of parasitic larvae (Molan et al 2000a);
- improved protein supply to the animal, possibly enhancing the immune response to parasites (Hoskin et al 2000);
- CT requiring direct contact with the parasites (Butter et al 2001);
- different chemical compositions of CT influencing efficacies (Molan et al 1999);
- and different species of gastrointestinal parasites responding differently to CT (Molan et al 1999; Athanasiadou et al 2001a).'

SCOPs, (Sustainable Control of Parasites of Sheep – see link following Editor's comments), has this to say about "Alternative and Bioactive Crops":

'Grazing on bioactive forages, such as chicory, birdsfoot trefoil, and sainfoin has been shown to reduce the negative effects of parasitism in sheep, though we still have much to learn about their use

in practical production systems. It is not yet known whether bioactive forages act directly against incoming or established worms or whether they work indirectly by improving the nutritional status of parasitised animals.' Source:

www.scops.org.uk/endoparasites-control-options.html

JN Bailey (Ph.D dissertation, University of New England, 2008) has this to say about condensed tannins:

'Nutraceuticals are plants which produce secondary metabolites capable of anti-parasitic activity.

The majority of research in this field has focused on condensed tannins, with anthelmintic activity first reported in the early 1960s by Taylor & Murant (1966). Subsequent studies in sheep (Niezen *et al.*, 1995; Niezen *et al.*, 1998) have shown that grazing leguminous crops such as sulla, which are rich in condensed tannins, can result in reduced levels of GIN infection. Kahn & Diaz-Hernandez (1999) suggested that this response may be mediated by a direct (anthelmintic) effect on GIN viability or an indirect nutritional mechanism. *In vitro* and *in vivo* studies have provided evidence of a direct effect of condensed tannins against adult (Athanasiadou *et al.*, 2000) and larval (Athanasiadou *et al.*, 2001; Niezen *et al.*, 2002; Brunet *et al.*, 2007) stages of GIN parasites.

The indirect activity of condensed tannins against GIN parasites is facilitated by their ability to protect plant protein from ruminal digestion, thereby increasing the flow of nitrogen to the small intestine. The consequent nutritional benefit has been shown to increase levels of resistance and resilience to GIN parasites (Coop & Holmes, 1996). However, these benefits may be offset by anti-nutritional effects associated with condensed tannins such as reduction in feed intake, digestibility and rumen function (Jackson & Miller, 2006).

Additionally, the quality and quantity of secondary metabolites in plants is likely to be affected by variables such as soil type, season, cultivar and management (Thamsborg *et al.*, 1999; Waller & Thamsborg, 2004). This adds to the difficulty of determining a dose response for, and practical integration of these control methods.

It is envisaged that suitable plants could be incorporated into permanent pasture or planted as a monoculture for use as a de-worming paddock (Niezen *et al.*, 1998; Thamsborg *et al.*, 1999; Coop & Kyriazakis, 2001). For this to be effective, in addition to anti-parasitic effects, the plants must be palatable, nutritious and able to withstand grazing.



Ketzis *et al.* (2006) are of the opinion that at this point in time, there is no strong evidence to suggest that an economic benefit will accrue from consumption of condensed tannins by parasitized sheep. Comprehensive reviews of this subject have been conducted by (Hammond *et al.*, 1997) and more recently by Githiori *et al.* (2006).' (Reproduced with permission)"

Editors note:

The anti-parasitic benefits from pastures containing condensed tannins, as shown by these comments, maybe somewhat contradictory and suggest a number of contributing factors are at play when it comes to CT in pasture species and their impact on controlling internal parasites in livestock.

Chicory and Plantain both have deep root systems which have the ability to draw up minerals located below the root systems of shallow rooted pasture species. The higher plane of nutrition offered by these mineral dense plants may contribute to an increase level of resistance and resilience to parasites.

For those that haven't seen it, the ABC Landline Story 'A Sheep Called Alice' (www.abc.net.au/news/2013-11-23/a-sheep-called-alice/5113088) provides an interesting insight into one woman's experience with nutraceuticals and improvements in her flock's performance. Also see a related discussion with animal behaviour expert Fred Provenza: www.abc.net.au/news/2013-05-02/fred-provenza/4664952

Clearly, successful internal parasite control in livestock can not be attributed to one particular factor alone, and an integrated approach which involves factors such as management (rotations, pasture selection, stress reduction), nutrition and genetics as well as chemical and biological controls, all play an important role in sustaining animal welfare.

Three websites which offer useful information on internal parasite management are:

WormBoss:

www.wormboss.com.au/

SCIPS - Sustainable Control (of) Internal Parasites (of) Sheep (although some of it is now out-dated, the website makes for informative/useful reading):

<http://sydney.edu.au/vetscience/sheepwormcontrol/>

SCOPS (Sustainable Control of Parasites of Sheep), a UK based, industry led group, representing interests of the sheep industry:

www.scops.org.uk/

SCOPS Technical Manual:

www.scops.org.uk/vets-manual.html

(Thanks to Steve Love for providing these links)

Research and Publications

Glyphosate's suppression of cytochrome P450 enzymes and amino acid biosynthesis by the gut microbiome: pathways to modern diseases.

Abstract: Glyphosate, the active ingredient in Roundup®, is the most popular herbicide used worldwide. The industry asserts it is minimally toxic to humans, but here we argue otherwise. Residues are found in the main foods of the Western diet, comprised primarily of sugar, corn, soy and wheat. Glyphosate's inhibition of cytochrome P450 (CYP) enzymes is an overlooked component of its toxicity to mammals. CYP enzymes play crucial roles in biology, one of which is to detoxify xenobiotics. Thus, glyphosate enhances the damaging effects of other food borne chemical residues and environmental toxins. Negative impact on the body is insidious and manifests slowly over time as inflammation damages cellular systems throughout the body. Here, we show how interference with CYP enzymes acts synergistically with disruption of the biosynthesis of aromatic amino acids by gut bacteria, as well as impairment in serum sulfate transport. Consequences are most of the diseases and conditions associated with a Western diet, which include gastrointestinal disorders, obesity, diabetes, heart disease, depression, autism, infertility, cancer and Alzheimer's disease. We explain the documented effects of glyphosate and its ability to induce disease, and we show that glyphosate is the "textbook example" of exogenous semiotic entropy: the disruption of homeostasis by environmental toxins.

Samsel, A. and Seneff, S. Entropy 2013, 15(4), 1416-1463. For full text see:

www.mdpi.com/1099-4300/15/4/1416

Stacked Crop Rotations Exploit Weed-Weed Competition for Sustainable Weed Management

Abstract

Crop rotation has long been considered one of the simplest and most effective tools for managing weeds. In this paper, we demonstrate how crop rotations can be strategically arranged to harness a novel mechanism of weed suppression: weed-weed competition. Specifically, we consider how

crop stacking, or increasing the number of consecutive plantings of a single crop within a rotation, can decrease the size of the weed seed bank, by forcing weeds to compete with each other in similar environments for longer periods of time, while still reaping the traditional benefits of crop rotation. Using an annual plant model, we investigate the theoretical effects of stacked crop rotations on weeds that have different life-history strategies and phenology.

Our results show that when weeds compete within a season, stacking can reduce the weed seed bank compared to rotations without stacked crops. Although more research is needed to fully understand the effects of crop stacking on other aspects of the system, such as insect pests and diseases, our research suggests that crop stacking has the potential to improve weed suppression without additional inputs, and their associated costs and externalities. More generally, improving management by changing the temporal arrangement of disturbances is a novel, process-based approach that could likely be applied to other weed management practices, such as mowing and herbicide application, and which could involve mechanisms other than weed-weed competition. Leveraging this new application of existing ecological theory to improve weed management strategies holds great promise.

Authors: Andrew J. Garrison , Adam D. Miller , Matthew R. Ryan , Stephen H. Roxburgh , and Katriona Shea

Source: WeedsNews4697, November 11, 2013

<http://weedsnetwork.com/traction/permalink/WeedsNews4697>

Organic milk higher in heart-healthy omega-3: US study

Organic milk contains significantly higher concentrations of heart-healthy omega-3 fatty acids compared to milk from conventionally-managed dairy cows, US researchers have found.

Source: www.foodnavigator-usa.com/R-D/Organic-milk-higher-in-heart-healthy-omega-3-US-study

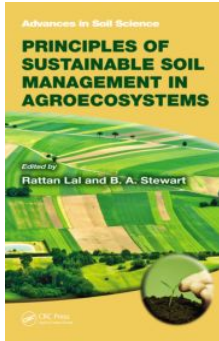
Sustainable soil management

This new book outlines critical changes in management of agricultural soils necessary to achieve food security and meet the food demands of the present and projected future population. The overall strategy is to replace what is removed from the soil, respond wisely to what is changed in the soil, and be pro-active to what may happen because of natural and anthropogenic disturbance. Chapters cover a range of topics including organic farming, soil fertility, crop-symbiotic soil microbiota, human-driven soil degradation, soil degradation

and restoration, carbon sink capacity of soils, soil renewal and sustainability, and the marginality principle.

Source:

<http://www.crcpress.com/product/isbn/9781466513464>



Nuffield Scholar reports on 'Fusion' farming

A new report produced by South Australian vegetable grower and 2011 vegetable industry Nuffield Scholar, Scott Samwell, focuses on a number of factors that contribute to sustainable agriculture. The report outlines a range of innovative practices being undertaken in different growing regions across multiple countries.

The report describes observations of key farming practices on a range of farms growing brassica crops, in particular Brussels sprout and cabbage, which utilise conventional, biological, organic and biodynamic principles.

The project investigated how these growers are managing their soils in relation to soil health and sustainability; examining the viability of these farms and considering if any of the alternative practices are commercially viable.

Figure 5. Mixed flowering species used as borders around crops in France. The flowers attract predatory insects which feed on nectar and which assist in controlling crop pests.



Source: Scott Samwell, 2012

The report concludes that not one of the farming systems investigated provided a suitable mix of environmental and economic sustainability for Brussels sprout growing in Australia. Fully organic farming, whilst highly environmentally sustainable, created an expensive end product which, in the Australian market, cannot sell in sufficiently high volumes to be economically sustainable.

Conventional, high-input systems are economically more viable but can create long-term environmental problems, along with suspicion or mistrust in the consumer. In the Australian situation, in particular, the author proposes that a 'happy medium' exists somewhere between the two, which creates a healthy, low-impact farm producing high quality, marketable, and accessibly priced produce.

To read the report, see:

www.nuffieldinternational.org/rep_pdf/1384824321ScottSamwellfinalNuffieldreport.pdf

Events

Biological Farming Practical Workshop and Small Microscope Course

This weekend course is designed for anyone with an interest in biological farming using composts, compost teas, vermiculture, permaculture, soil aeration and whole farm management. It is also a re-fresher for those people who have participated in courses in the past with Dr Elaine Ingham and Dr Mary Cole or who have completed the recent on-line course through the Soil Learning Centre.

Presenters include: Dr Mary Cole, together with consultants Stuart Proud, Proud AG; Darren Morgan, EnviroTurf; and Alan Cole, Agpath P/L

Practical demonstrations will be held using a Yeoman's plough, a new compost turner that is priced for farmers to purchase, making high quality thermal compost suitable for making compost tea. Large and small brewers will be demonstrated. How to use a microscope to look at the microbes in soil, compost and compost will be demonstrated with microscopes available for hands-on learning.

Short talks on compost making and compost tea making theory together with case studies will be presented. A session dedicated to Q & A will complete the 2-day programme. Sessions will rotate through the two days so that everyone can participate in those sessions of interest.

Location: 105 Gunn Road, Garfield, Vic.

Date: February 1-2, 2014

For more information contact: Agpath Pty Ltd
Phone: 0413 013 247; E-mail: agpath@dcsi.net.au

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To see back issues of Organic News visit:
www.dpi.nsw.gov.au/aboutus/resources/periodicals/newsletters/organic-news

Editor: Robyn Neeson
NSW Department of Primary Industries
Berry District Office
21 Schofields Lane
PO Box 63
Berry NSW 2535
Email: robyn.neeson@dpi.nsw.gov.au
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