

Permaculture Cairns January Newsletter

EMPOWERING COMMUNITIES WITH SUSTAINABLE SOLUTIONS



Care for the Earth, Care for people, Share the excess

Permaculture Cairns Incorporated

Web Site: www.permaculturecairns.org.au

January Meeting & Information Exchange Night

Tuesday 19th at 6pm for a 6.30pm start

Meeting Venue: ARC Disability Centre – 92 Little Street Manunda

Members please bring a plate of finger food to share and a friend or two!

**Members free, non members \$5 and bring some money for raffle tickets.
There is a plan to raise enough to pay the rent for the meeting by running raffles.**

AGENDA

Welcome to Members, new Members and Guests

Workshops and Events notices

Permaculture Principle Number 1 - a practical explanation.

Guest Speaker/s: Jim Brooks and his team, who will give us an insight into their teams proposals for Cairns in the upcoming March, Council Elections.

If time allows a few brief talks on one or two of the following topics, Books, Plants, Tools, Tips, Weeds, Pests, Recipes or Gardening Tips. And if you have something to add please speak up.

About 8.15 we break for a cuppa and nibbles and a chance to network with likeminded people.

Check out the books in our Members Library – We are finished and on the way home by 9.00pm **or so.**

MEMBERSHIP FEES FOR 2016 ARE NOW DUE AND PAYABLE!!!!!!!

The Management Committee has decided to trial a new way of operating the group. This will take pressure off the team, who all have full time occupations.

The night meetings will alternate each month with a day time event such as workshop, tour or visit to a members garden the next month. This will give members a chance to meet and get to know each other and to learn something new.

The first of these backyard meets will begin next month – details below

PERMACULTURE CAIRNS BACKYARD MEET FOR MEMBERS ONLY

Saturday 13th February

More information later.

We will meet at a members' home and while in the back yard discuss the topic of dealing with the weeds on the property.

Learn how some weeds can be useful and most can be contained with a little effort. The tough ones will need more attention.

Learn how to get square with weeds!

Venue will be in Cairns

Register your interest by emailing info@permaculturecairns.org.au

Permaculture Principle No. 1 Observe and interact

“Beauty is in the eye of the beholder”

By taking the time to engage with nature we can design solutions that suit our particular situation.

This icon for this design principle represents a person 'becoming' a tree. In observing nature it is important to take different perspectives to help understand what is going on with the various elements in the system. The proverb “Beauty is in the eye of the beholder” reminds us that we place our own values on what we observe, yet in nature, there is no right or wrong, only different.

LOCAL WORKSHOPS AND EVENTS

L.E.T.S. January Calendar

TABLELAND LETS - Relocalising all of Far North Queensland
LETS is a Community Trading System which uses “Bartles” for trading.

Happy New Year

MALANDA - Saturday 9th 10 – 12 noon. Malanda trade in the Park. Eacham Memorial Park, opposite the post office. Bring along morning tea to share, something to trade and display your wares. There is a shelter, so it's an all weather event. Event Host: Katrin - 40966755

YUNGABURRA – Friday 15th January 6 – 9pm Curry Night and Trade – that retro cafe, 20 Eacham Road, Yungaburra Bring your favourite curry dish to share, something to trade, a friend or family. Child friendly event. Chai available for 100% Bartles. Come join an evening of trade and companionship. Event Host: Melitta 40952340

RAVENSHOE - Saturday 16th January 12 - 2pm Trade afternoon Youth Shed, Ravenshoe Community Centre, 3 Bolton Street. Following Community Gardens gathering - come and check it out. Child friendly event. Bring something to trade and some lunch to share. Event host: Kathy 40977864

MALANDA - Sunday 17th 2 till 4pm Trade Afternoon at Mary & Mathieu's place, bring a plate to share for afternoon tea and something to trade. 7 Cleminson Close, Malanda.
Event host: Mary 40966651

YUNGABURRA - Saturday 23rd January - 12 - 2pm - that retro cafe trade afternoon, Red Shed Shops.
This event is immediately after the Yungaburra Market. Bring along something to trade a rug to display your wares. Retro is extending so there will plenty of space. 100% Bartles for drinks from the menu. (You will need cash for lunch and drinks from the display fridge).
Event Host: Melitta 40952340

CAIRNS CITY - Sunday 31st January 12- 2pm - Lafew Teahouse, 33 Sheridan Street, Cairns. Bring along a friend and something to trade. Event Host: Lorna 44205903

What to bring to Trade Events where not specified above: food & drinks for yourself or to share, or money and/or Bartles at some venues, friends, Trading Record Sheet and pen, any goods you wish to trade, table/rug to display them upon is often useful, your own chair at some venues, promotional material of any services you are offering if applicable, \$20 to join LETS if you are not yet a member.

tablelandlets@gmail.com - 4096 6972 - www.tablelandlets.org - www.communityexchange.net.au

NEWS & INFORMATION FROM HOME AND AROUND THE WORLD

A Message of Hope: Regeneration International at COP21 in Paris

By **Regeneration International**

When we invited activists, authors, farmers, filmmakers and scientists from 16 countries to camp out with us at a hostel in Paris for the 2015 COP21 Climate Summit, we weren't sure who would show up, or how things would go.

It turned out even better than we imagined. About 80 people, from Argentina, Australia, Canada, Colombia, Ecuador, France, Germany, Greece, India, Indonesia, Mexico, Peru, Switzerland, Spain, the U.S, and Zimbabwe joined us, for all or part of the two-week COP21, at St. Christopher's Inn Canal, sister hostel of the **Place to B**. The hostel, and a nearby rented apartment, turned out to be great venues for formal, organized workshops, plus a lot of informal networking and ad hoc meetings.

We went to Paris with a message of hope: Regenerative food, farming and land use can cool the planet and feed the world. Our intention was to change the climate conversation because to date, the conversation has focused almost exclusively on emissions reduction. We absolutely must reduce fossil fuel emissions. But emissions reduction is only a 50-percent solution. Even if we were to cut all human-induced greenhouse gas (GHG) emissions today, the globe would continue to warm for decades or even centuries to come.

However, there is hope. There is growing scientific evidence that regenerative agriculture can reverse climate change by drawing carbon into the soil through

the natural process of photosynthesis, while at the same time delivering other essential ecological, economic and health benefits.

Ronnie Cummins, international director of the Organic Consumers Association and Via Organica, and a member of the RI Steering Committee, told one gathering:

“A growing number of us here in Paris are determined to change the prevailing gloom and doom conversation on climate, and instead focus on practical solutions. Global regeneration requires a revolution, not only in our thinking, but in our heretofore tunnel vision. **We need to move beyond mere mitigation or sustainability concepts that simply depress or demobilize people** to a bold new global strategy of regeneration,” he added.

Success! The climate conversation evolves!

We accomplished our goal in Paris. We helped change the conversation. For the first time, the international community now recognizes the potential for healthy soils to reverse climate change.

On December 1, 2015, France launched a global initiative endorsed by 100 partners, including 25 countries. The “**4 per 1000 Initiative: Soils for Food Security and Climate**” consists of a voluntary action plan under the **Lima-Paris Action Agenda (LPAA)** that aims to show that food security and combating climate change are complementary. The initiative also positions farmers as the pioneering climate heroes of our generation.

Commenting on the French 4 per 1000 Initiative, André Leu, president of IFOAM Organics International, said:

“We know we can put carbon in the soil. The world has accepted it. Now we have to talk about how to scale this up. What we are about to do now is change agriculture forever. It is the biggest paradigm shift in the history of the climate change movement. On December 1-2, agriculture finally made it into the climate talks. It went from being ignored to being central to climate change. This is huge. The time for talking is finished. Now is the time for doing. The technology is available to everyone. It is up to us to mobilize in time. Let’s start working to get this done and give our world a better future.”

The words “agriculture” and “soil carbon” do not explicitly appear in the **official UNFCCC agreement**. But that’s okay! Here’s why. Each country is required to provide something called an **Intended Nationally Determined Contributions (INDCs)**, a document in which they outline their plan for climate mitigation and adaptation. According to an **analysis conducted by CGIAR** of the first 150 country INDCs submitted ahead of the UN climate talks, 80 percent of commitments included agriculture in mitigation targets, and 64 percent included agriculture in their adaptation strategies.” Under the **Lima-Paris Action Agenda**, these INDCs will be reviewed every five years and do not begin until 2020.

“It is important to understand that there is plenty of scope to have farming and soil carbon included in the INDCs between now and 2020,” Leu said.

Demonstrations, press conferences, workshops and more!

In addition to attending the formal COP21 negotiations, the RI delegation participated in and hosted a variety of alternative events, workshops and demonstrations.

Here’s a list of some notable events RI members either organized, sponsored or participated in:

- On November 29, we joined tens of thousands of activists who took to the streets to peacefully defy the French government’s ban on street demonstrations. A delegation of North and Latin American regeneration activists joined the protest, holding hands in a human chain stretching for miles. We lined up at the corner of Boulevard Voltaire and Allée du Philosophe. Our section of the animated chain, designated “solutions,” was punctuated with colorful homemade signs, T-shirts and banners. We were a boisterous group, whose most popular chant, repeated over and over again in Spanish, English and French, drew smiles and thumbs-up reactions from Parisians passing by: “*El pueblo unido, jamas sera vencido*” or “*The people united will never be defeated*”.
- On December 3, the Organic Consumers Association (OCA), IFOAM International Organics, Navdanya, Regeneration International (RI), and Millions Against Monsanto, joined by dozens of global food, farming and environmental justice groups, held a press conference to **announce that they will organize a citizens tribunal** to hold Monsanto accountable for crimes against nature and humanity, and ecocide. The tribunal will take place next year, The Hague, Netherlands, beginning October 12 and ending on World Food Day, October 16, 2016.
- Also on December 3, 2015, Kiss the Ground, Project Drawdown, and RI hosted a **workshop on regenerative agriculture and land use** which brought together soil and carbon enthusiasts. Participants exchanged skills and knowledge on regenerative agriculture and land use, soil carbon sequestration, climate change mitigation. Some, like Pedro Diniz, also shared ecosystem restoration success stories. Pedro and his team **shared the inspiring story of how they restored Fazenda da Toca**. Today, this large-scale family-owned organic farm in Brazil’s São Paulo state is changing the future of ecological agriculture.
- On World Soil Day, December 5, 2015, which coincided with COP21, artists, environmental and spiritual leaders, seed defenders, community supported agriculture networks, and concerned citizens **gathered at La Villette in Paris and planted a ‘Garden of Hope’**. We launched a **Pact with the Earth** and with each other to defend our commons—our seeds, soil, water, biodiversity, air and climate systems—essential to building climate resilience. We reaffirmed that in regenerative agriculture and local food systems lie the answers to the food, nutrition and health crises, water and climate crises, and the refugee crisis caused by climate instability.
- On December 6, we hosted a workshop at the **People’s Climate Summit** where panelists and participants discussed a 2016 action plan for global regeneration. Precious Phiri (EarthWisdom Consulting) highlighted the importance of eating regeneratively. “Education in Southern Africa is key. I get rejection from the educated in Zimbabwe because there is dependency. People think that we need GMOs, we need industrial agriculture to survive,” she said. Laura Lengnick, author of “Resilient Agriculture,” called for the transformation of the food system: “The way we eat has a lot to do with how our communities are organized,” she said.

- On December 7, over 100 people gathered at [La REcyclerie](#), an urban farm in the heart of Paris and also considered a DESTINATION COP21, to hear a series of short talks and engage in discussions around the theme “Cool the Planet, Feed the World: The Power of Regenerative Food and Farming to Save the Planet.” La REcyclerie’s mission leading up to COP21 was to educate citizens about the fight against climate change.

What can you do?

- (1) Change the climate conversation in your local community or in your local organization from doom and gloom to one of positive solutions, based upon the regeneration perspective. Join [Regeneration International’s Facebook page](#). Publicize and share strategic articles, videos and best practices. If you need to study up on how soil sequestration works, read and re-read [this pamphlet](#) and go through the major articles in our [annotated bibliography](#).
- (2) Join or help organize a local or regional regeneration working group. If you’re ready to become a Regeneration International organizer send an email to info@regenerationinternational.org.
- (3) Boycott the industrial food system. Regenerate your health and your diet. Get ready to join OCA and Regeneration International’s soon-to-be-announced global campaign and boycott against Monsanto, factory farms, GMO animal feeds, biofuels and so-called “Climate-Smart Agriculture.” One of the most important things you can do today and every day is to buy and consume organic, grass-fed, locally produced, climate friendly foods.
- (4) Help organize and plan regeneration conferences and meetings. Make your plans now to attend our Regeneration International global climate and biodiversity summit in Mexico City December. 1-3, 2016.

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From CSIRO

Why foods that make you fart are a good thing

By [Sarah Keenihan](#) 23rd November 2015

Although renowned for creating delight in children, farts are not considered the best way to make friends and influence people. But there is an upside: the production of gas means that your body is hosting the right kinds of bacteria. To encourage these ‘good’ bugs – known as our microbiome – we need to eat fibre.

“Fermentable components of dietary fibre have a critical role in feeding the gut microbiome,” said Dr Trevor Lockett, Head of the Gut Health and Nutrition Group at [CSIRO Food and Nutrition](#).

“This part of fibre is fermented mostly to short chain fatty acids, a process which creates gas.”

Fermentation is a chemical process that breaks down carbohydrates in fibre: bacteria do it in our bowels to create food for themselves. Molecules that improve the health of their host – that's you – are also produced. Dr Lockett presented an update on his group's latest research at '[Bugs, Bowels and Beyond](#)', the 2015 National Scientific Conference of the [Australian Society for Medical Research](#) held in Adelaide, South Australia last week.

He focused in particular on recent findings describing how different dietary components influence the microbiome, and determine their production of not just gas, but also molecules that are beneficial in the large intestine.

"For example, we know now that bacteria living in the large intestine produce a short chain fatty acid known as butyrate, which can reduce inflammation by stimulating regulatory immune cells," he said.

"We're now seeking to expand some of this work to see if we can improve inflammatory bowel disease."

The component in food that manages to make it through digestive processes in the stomach and small intestine to feed the microbiome in the large intestine is known as resistant starch.

You can improve the proportion of resistant starch in your diet by eating unrefined whole grains, pulses and legumes, unripe bananas and cooked and cooled foods such as potatoes, pasta and rice. Dr Lockett explained that in addition to conducting fundamental research, scientists at the CSIRO work across the fields of nutrition and agriculture for product development.

"As our understanding of the beneficial components of dietary fibre has improved, we've been able to inform colleagues who are growing grains for cereal purposes," he explained.

"If we can include and enrich resistant starch in marketable grains, perhaps we can drive health benefits."

Dr Lockett's CSIRO colleague Dr Bianca Benassi-Evans – who is based in the [South Australian Health and Medical Research Institute \(SAHMRI\)](#) building – has recently trialed two non-genetically modified barley grains to determine their impact on bowel health. Comparing the two candidate CSIRO barley grains against regular barley and puffed rice as breakfast meals in a sample of 20 adults, she found both to have desirable features.

"Our grains increased the acidity in stool samples, and increased bowel production of butyrate, a short chain fatty acid," she said.

"Both of these outcomes are biomarkers of good bowel health."

Additional studies are currently taking place, through which Dr Benassi-Evans hopes these grains may end up in your cereal aisle.

"What you choose in that supermarket can have dramatic effects on gut health," she said.

Which breakfast products make you fart is a question you'll have to determine yourself.

[CSIRO Food and Nutrition](#) in South Australia has laboratories and clinical consulting facilities at [SAHMRI](#) and [The University of Adelaide](#).

[This article was originally published on The Lead.](#)

Some interesting articles from 2015

3D printers to the chest-cue

Our chest story of the year? A Spanish cancer patient received a 3D printed titanium sternum and rib cage designed and manufactured right here in Australia. Suffering from a chest wall sarcoma, the man needed his sternum and a portion of his rib cage replaced. This part of the chest is notoriously tricky to recreate with prosthetics, due to the complex geometry and design required for each patient. So the patient's surgical team turned to Melbourne-based medical device company Anatomics, who designed and manufactured the implant utilising our whiz bang Lab 22 printers. It was a wondrous display of the possibilities the world of 3D printing presents us.

Shout out to all the pears

Didn't this one set the internet off? We've been involved in a study with Horticulture Innovation Australia on the health benefits of pears. As well as finding pears are good for lowering cholesterol, relieving constipation and as an anti-inflammatory, it turns out they can also ward off hangovers and lower blood alcohol levels. As explained by Manny Noakes, our lead research on the project, *Nashi pears act on the key enzymes involved in alcohol metabolism, alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH) to speed up alcohol metabolism and elimination or inhibition of alcohol absorption. In particular, reductions were seen in blood acetaldehyde levels, the toxic metabolic thought to be responsible for the hangover symptoms, with pear juice consumption.* In short, eat some Nashi (Asian) pears before you start drinking and you can reduce the size of your hangover the next day..

Banana grower eyes lucrative custard apple Asian export market

ABC Rural

Charlie McKillop



Photo: Michael

Lankester hopes his efforts establishing a custard apple crop will be rewarded heading into a second year of production (Charlie McKillop)

Far north Queensland banana grower Michael Lankester doesn't mind admitting he's a bit different. He also doesn't do things in half measures.

When many growers on the Atherton Tableland planted Cavendish bananas, Mr Lankester opted for the lesser known but popular Lady Finger variety.

So, when he considered another crop, it probably should come as no surprise he did not turn to avocados, despite a [massive increase in plantings on the Atherton Tableland](#), but instead, planted 3,700 custard apple trees on trellises on five hectares of prime, red soil country.

It's a move that's inadvertently made Michael Lankester one of Australia's largest growers of the exotic, tropical fruit.

It was time to diversify from bananas, I thought, and everyone's growing avocados so I did something outside the square.

Michael Lankester, far north Queensland

"It was time to diversify from bananas, I thought, and everyone's growing avocados so I did something outside the square," he explained.

"There is a lot in the ground but I think there's room for more, there's room for export as well which we'll have to do a lot of."

Custard apples ain't cheap or easy

At a cost of \$10,000 an acre, establishing the orchard has not come cheaply, and is also very labour intensive and time consuming.

Every three weeks, Michael Lankester and a worker go through the entire orchard armed with secateurs to promote the correct tree structure.



Photo: The custard apple orchard is [a change of pace for second generation banana farmer Michael Lankester](#)

"As the plant grows, the main stem gets to the first wire, we select laterals to go left and right along the wire and one to go up to the next wire.

"So, we let the centre one go up and it keeps growing until we get the two laterals to their destination. Then, we'll cut the one going up at the wire and it'll bud up and we'll select three again until we get to the top."

Warding against the pathogen, *Phytophthora*, which causes root rot disease, as well as aphids and fruit spotting bugs, requires constant vigilance with a strict spraying and watering program.

The bananas is go-go all the time whereas this is an orchard, it's a little bit more laid back but there's still plenty of work to do, don't you worry about that!

Once in the shed, packing and presenting the unusual fruit is the next challenge.

"We wrap 'em in red tissue paper which they tell me red is the colour for Asians and, Asians love custard apples, so that's our thing for presentation and we put our blue sticker on them as well, as we do for the Lady fingers," he said.

Reward for effort

Mr Lankester said he believed the hard work of establishing the crop would start to be rewarded heading into a second year of production, hopefully just in time for the lucrative Chinese new year market.

"It's full-on. But it's got to be done and we've got to try to do it properly," he said.

"There's always room for improvement. We've got a lot to learn here, we're only new to the industry and we're going to give it our best shot."

It may be a steep learning curve growing custard apples, but it's also been a change of scenery and routine that the second generation banana grower has relished.

"Oh it's a great relief," he laughed. "This is the gentleman farming side of things on my property."

"The bananas is go-go all the time, whereas this is an orchard, it's a little bit more laid back but there's still plenty of work to do, don't you worry about that."

Cows off the hook as scientists downgrade impact of beef and dairy cattle on Australia's methane emissions by 24pc

ABC Rural

By [Marty McCarthy](#)

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Updated 15 Dec 2015, 9:09amTue 15 Dec 2015, 9:09am



Photo: Methane emissions from cattle in Australia are 24 per cent lower than previously thought, equivalent to 12.6 million tonnes of carbon dioxide a year (Supplied: Alec Walker)

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Australian cattle do not produce as much carbon emissions as first thought, and an adjustment to the figure could decrease the rural sector's overall contribution to greenhouse gas emissions.

That is the finding of an eight-year CSIRO investigation into the effects of the beef and dairy industries on Australia's methane emissions.

According to Dr Ed Charmley, an agriculture scientist with the CSIRO, methane emissions from cattle in Australia are 24 per cent lower than previously thought, equivalent to 12.6 million tonnes of carbon dioxide a year.

Dr Charmley said the findings would help reduce criticism of the farm sector's impact on climate change, and help farmers increase their productivity.

We can make consumers understand that perhaps this is not the bogeyman that people once thought it was.

Dr Matthew McDonagh, Meat and Livestock Australia

"It certainly helps, we have a lot more confidence in the data we have because it is based on newer methods, and it shows lower emissions," he said.

"But lower emissions means more efficient production, and so from the producers' perspective we want to see more efficient animals with less wastage going out in methane."

Meat and Livestock Australia, the nation's peak research and development body for the sheep and cattle industry, co-funded the study and has embraced the results.

Dr Matthew McDonagh, general manager of On Farm Innovation with MLA, said the findings would reduce the pressure put on primary producers for their impact on climate change.

"We already know we are not the major player when it comes to greenhouse gas emissions across the country," he said.

"But consumers are well aware of it and they know sheep and cattle produce methane, and they are concerned about any of the products they use that have an impact on the environment.

"So this is just some good data that we can demonstrate to consumers that shows we have got our eye on the ball when it comes to our industry.

"We can show there had been an overestimation of sheep and cattle influence on the total greenhouse gas emissions of the country and start to tell that story to the consumers.

"We can make consumers understand that perhaps this is not the bogeyman that people once thought it was."

Methane is released through burping, and is created in the digestion process of cellulose in the rumens of livestock.

We basically knew that ... we were probably overestimating, but we didn't quite realise it would be by as much as 24 per cent.

Dr Matthew McDonagh, Meat and Livestock Australia

Recent advances in methane testing technology enabled researchers to more accurately test the actual amount of greenhouse gas the cows were producing.

"All the data we have used is from what we call the methane chamber technique, which is the best technology we have available," Dr Charmley said.

"It involves putting an animal in a chamber where you monitor the amount of air going in and the amount of air going out, and the concentration of methane in that.

"From that we can calculate the amount of methane that is produced by the animal, particularly in relation to the amount of food the animal is given."

The results will be used to update of the National Greenhouse Gas Inventory (NGGI), and bring Australia in line with international estimates set out by the Intergovernmental Panel on Climate Change (IPCC).

Dr McDonagh said the reason for the initial cattle emission overestimation was due to generic data being used.



Photo: Cattle herds in Australia's north were studied as part of the research. (Virginia Tapp)

"Previously there had been estimates done using similar technology but on very different animal and feed types," he said.

"Previously they were based on dairy cattle, which aren't necessarily applicable to our grassland production systems for the majority of cattle producers.

"We basically knew that, using international data as a comparison, we were probably overestimating, but we didn't quite realise it would be by as much as 24 per cent."

Agriculture contributes more than 15 per cent to Australia's overall greenhouse gas emissions, and almost 70 per cent of that is from sheep and cattle.

Electricity contributes the most at 35 per cent, while transport contributes 14 per cent.

We can already demonstrate that the amount of greenhouse gas that livestock produce, particularly cattle, over the last 30 years has reduced.

Dr Matthew McDonagh, Meat and Livestock Australia

Dr Charmley said the 15 per cent figure for agriculture could now be downgraded as a result of the updated research.

"It will [bring it down], but at the same time there have been changes to what is known as the global warming potential of methane," he said.

"So that tends to offset some of the advantages, but if we hadn't done this work it brings down the overall agriculture emissions because methane is such a big part of that."

Dr Charmley said similar research to measure emissions from sheep was ongoing.

A national study

Around 1,000 cows were tested across the country, from north and central Queensland to northern New South Wales and Victoria.

Townsville and Rockhampton in Queensland and Armidale in New South Wales were used as the testing locations for beef cattle emissions, while the dairy data was gathered in West Gippsland, Victoria.

According to Dr Charmley, researchers were surprised to find that the amount of methane emitted was the same for animals in each location.

"That was one of the reasons for doing this study, because we thought there would be some differences between, say dairy cattle and bos indicus cattle," he said.



Photo: One thousand dairy cows as well as beef cattle were studied across the country, with researchers surprised to find that the amount of methane emitted was the same for animals at each location. (ABC Rural: Lucie Bell)

"But what we found was that when you had a large enough data set, although there are small differences depending on where the work was done and the type of animal, the relationship was very strong."

"Per unit of dry matter intake a dairy cow emits the same amount [as beef cattle], but of course a dairy cow would consume a lot more feed than a beef cow."

Dr McDonagh said the red meat industry had been working to reduce methane emissions in livestock in recent years.

"We can already demonstrate that the amount of greenhouse gas that livestock produce, particularly cattle, over the last 30 years has reduced," he said.

"We have been able to reduce the amount of methane that an individual animal produces per kilogram of product by about 14 per cent over the last 30 years."

Dr McDonagh said there was no conflict of interest in the research, which was co-funded by MLA levy payers.

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"We certainly part-funded the research along with all of our research agency partners, led by CSIRO," he said.

"This is a published paper, which really demonstrates in the scientific literature that the data and calculations are all there, and has been critiqued by the scientific community."

The analysis of Australian cattle research data was conducted by CSIRO, the Victorian Department of Economic Development, Jobs, Transport and Resources, the New South Wales Department of Primary Industries, the University of New England and the Queensland Department of Agriculture, with technical input from the Australian Government Department of Environment.

The new method of analysing methane emissions from Australian cattle has been published in the journal *Animal Production Science*.

From CSIRO blog

Understanding the choice to go gluten or wheat-free

By Sinead Golley 6th November 2015



A fire-roasted veggie sandwich produced with gluten-rich wheat. Image: wEnDy/Flickr/CC BY-NC-ND 2.0

In recent decades, fat, sodium, carbohydrates, sugar and protein have all been targeted as ‘bad’ dietary factors. Right now the focus seems to have shifted to gluten: a protein found in cereal grains, especially wheat but also rye and barley. For a small proportion of consumers, such as those diagnosed with coeliac disease or wheat allergy, the avoidance of wheat and other gluten-containing foods is essential. Symptoms for sufferers can include nausea, vomiting, cramping, bloating, abdominal pain, fatigue and even very serious conditions such as liver disease.

The prevalence in the population of coeliac disease and wheat allergy, while significant, sits between 1-2%.

The prevalence in the population of coeliac disease and wheat allergy, while significant, sits between 1-2%.

But the growing number of consumer foods labelled as either gluten or lactose free, and the popularity of restrictive diets like the paleo diet, would suggest more people are making the choice to go gluten or wheat-free – above what the coeliac and wheat allergy statistics would suggest.

To understand more about this trend, we conducted a nationwide survey of nearly 1200 people selected at random from the Australian electoral roll. The aim of the research was not only to quantify the prevalence of wheat avoidance in Australia but also to pioneer understanding of the drivers underpinning this decision.

Wheat avoidance in Australia

The data collected revealed that as many as 1 in 10 Australian adults, or approximately 1.8 million people, were currently avoiding or limiting their consumption of wheat-based products. Women were more likely to be avoiding wheat than men.

The data collected revealed that as many as 1 in 10 Australian adults, or approximately 1.8 million people, were currently avoiding or limiting their consumption of wheat-based products. Women were more likely to be avoiding wheat than men.

The survey also revealed that over half (53%) of those who were avoiding wheat were also avoiding dairy-based foods.

Why is this an issue? According to current Australian Dietary Guidelines, both grain and dairy-based foods are an important component of a balanced diet. They contribute significantly to the daily dietary fibre and calcium intake of both adults and children. They also deliver other important nutrients such as protein, vitamins and minerals, and – if eating whole grain – resistant starch.

So why are people choosing to avoid wheat?

The reasons behind this decision are complex. Some respondents reported that they were avoiding wheat due to a diagnosis of coeliac disease (1.1%), or because a family member has been diagnosed with coeliac disease. Others stated they were avoiding wheat for weight-control or taste preferences.

However, the vast majority of the survey's wheat-avoiding respondents – which equates to 7% of (non-coeliac) Australians – were avoiding wheat-containing foods to manage a range of adverse symptoms they attributed to the consumption of these products. Symptoms were mostly gastrointestinal in nature (bloating, wind and abdominal cramps) but also included fatigue/tiredness.

When asked if they had any formal diagnosis including that of an intolerance, allergy, or coeliac disease which required them to avoid wheat, most (84%) of these symptomatic individuals said no.

So what sources are people relying on when it comes to making decisions such as avoiding wheat? There is a great deal of information which links the consumption of specific foods to adverse symptoms. According to our data, those who decide to eliminate wheat tend to do so based on advice from sources such as complementary practitioners (for example, naturopaths) family, friends, the media, and to a lesser extent their GP or a medical specialist.

Is wheat really so bad?

Up until recently it was thought that gluten was only really a problem for individuals with coeliac disease. Our findings, plus the extraordinary rise in popularity of the gluten-free diet in Australia and elsewhere, suggest that, apart from coeliac disease and wheat allergy, other conditions associated with the ingestion of wheat are emerging as health care concerns. Currently, the driver of most of the research activity in this area is the concept of non-coeliac gluten sensitivity (NCGS).

NCGS is defined as adverse reactions to the consumption of gluten, where both allergic and autoimmune mechanisms have been ruled out and where gastrointestinal symptoms improve on a gluten-free diet. Many aspects of NCGS remain unclear, including prevalence, clinical spectrum, physiological mechanism and

treatment. There is also considerable debate as to whether it is in fact gluten or some other component of wheat that triggers the reported symptoms.

Fructans, for example, are short-chain carbohydrates which are found in wheat-based products, as well as other foods. For a proportion of the general population fructans, along with other short-chain carbohydrates (collectively called FODMAPS), can trigger symptoms like bloating, wind or cramps – by holding water in the gut or through the rapid production of gas by intestinal bacteria.

Our finding that people may be avoiding more than one dietary component at a time has the potential to complicate being able to know exactly which dietary components, and in what doses, are to blame for their symptoms. Further research is needed.

Until then, there is a risk that a significant proportion of Australians may be undertaking diets that are unnecessarily restrictive, with the potential danger of associated nutritional imbalances. Also of concern is the finding that the majority of symptomatic respondents appear to be bypassing conventional medical advice in their decision to go wheat-free. We would be remiss not to draw attention to the potential risk here of a serious clinical condition going undetected.

From The Conversation

You *can* thaw and refreeze meat: five food safety myths busted

December 28, 2015 8.38am AEDT

This time of year, most fridges are stocked up with food and drinks to share with family and friends. Let's not make ourselves and our guests sick by getting things wrong when preparing and serving food.

As the weather warms up, so does the environment for micro-organisms in foods, potentially allowing them to multiply faster to hazardous levels. So put the drinks on ice and keep the fridge for the food.

But what are some of those food safety myths we've long come to believe that aren't actually true?

Myth 1: if you've defrosted frozen meat or chicken you can't refreeze it

From a safety point of view, it is fine to refreeze defrosted meat or chicken or any frozen food as long as it was defrosted in a fridge running at 5°C or below. Some quality may be lost by defrosting then refreezing foods as the cells break down a little and the food can become slightly watery.

Another option is to cook the defrosted food and then divide into small portions and refreeze once it has stopped steaming. Steam in a closed container leads to condensation, which can result in pools of water forming. This, combined with the nutrients in the food, creates the perfect environment for microbial growth. So it's always best to wait about 30 minutes before refrigerating or freezing hot food.

Plan ahead so food can be defrosted in the fridge, especially with large items such as a frozen turkey or roll of meat. If left on the bench, the external surface could be at room temperature and micro-organisms could be growing rapidly while the centre of the piece is still frozen!

Myth 2: Wash meat before you prepare and/or cook it

It is not a good idea to wash meats and poultry when preparing for cooking. Splashing water that might contain potentially hazardous bacteria around the kitchen can create more of a hazard if those bacteria are splashed onto ready-to-eat foods or food preparation surfaces.

It is, however, a good idea to wash fruits and vegetables before preparing and serving, especially if they're grown near or in the ground as they may carry some dirt and therefore micro-organisms.

This applies particularly to foods that will be prepared and eaten without further cooking. Consuming foods raw that traditionally have been eaten cooked or otherwise processed to kill pathogenic micro-organisms (potentially deadly to humans) might increase the risk of food poisoning.

Fruit, salad, vegetables and other ready-to-eat foods should be prepared separately, away from raw meat, chicken, seafood and other foods that need cooking.

Myth 3: Hot food should be left out to cool completely before putting it in the fridge

It's not OK to leave perishable food out for an extended time or overnight before putting it in the fridge.

Micro-organisms can grow rapidly in food at temperatures between 5° and 60°C. Temperature control is the simplest and most effective way of controlling the growth of bacteria. Perishable food should spend as little time as possible in the 5-60°C danger zone. If food is left in the danger zone, be aware it is potentially unsafe to eat.

Hot leftovers, and any other leftovers for that matter, should go into the fridge once they have stopped steaming to reduce condensation, within about 30 minutes.

Large portions of hot food will cool faster if broken down into smaller amounts in shallow containers. It is possible that hot food such as stews or soup left in a bulky container, say a two-litre mixing bowl (versus a shallow tray), in the fridge can take nearly 24 hours to cool to the safe zone of less than 5°C.

Myth 4: If it smells OK, then it's OK to eat

This is definitely not always true. Spoilage bacteria, yeasts and moulds are the usual culprits for making food smell off or go slimy and these may not make you sick, although it is always advisable not to consume spoiled food.

Pathogenic bacteria can grow in food and not cause any obvious changes to the food, so the best option is to inhibit pathogen growth by refrigerating foods.

Just because something passes the sniff test, doesn't make it OK. www.shutterstock.com

Myth 5: Oil preserves food so it can be left at room temperature

Adding oil to foods will not necessarily kill bugs lurking in your food. The opposite is true for many products in oil if anaerobic micro-organisms, such as *Clostridium botulinum* (botulism), are present in the food. A lack of oxygen provides perfect conditions for their growth.

Outbreaks of botulism arising from consumption of vegetables in oil – including garlic, olives, mushrooms, beans and hot peppers – have mostly been attributed to the products not being properly prepared.

Vegetables in oil can be made safely. In 1991, Australian regulations stipulated that this class of product (vegetables in oil) can be safely made if the pH (a measure of acid) is less than 4.6. Foods with a pH below 4.6 do not in general support the growth of food-poisoning bacteria including botulism.

So keep food out of the danger zone to reduce your guests' risk of getting food poisoning this summer. Check out other food safety tips and resources from [CSIRO](#) and the [Food Safety Information Council](#), including [testing your food safety knowledge](#).

Hi, only 20 pages this month, after all it is holiday season. Enjoy.

Carol Laing

Newsletter Editor

Membership form on next page – please print, complete and bring to the meeting on Tuesday night.

See you there.

Please **PRINT – SIGN – SCAN** and **RETURN** by email to
treasurer@permaculturecairns.org.au.



Permaculture Cairns

Membership Form 2016

One year's membership fee - 1 Jan – 31 Dec:

- ☐ Household membership \$30 ☐ Renewing Member ☐
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Name(s) of all applicant(s) & DOB if under 18yrs:

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If you have a Permaculture Design Certificate could you please complete the following survey.

YOUR NAME:

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Where did you do the Course:

Permaculture Cairns Public Meetings - All Welcome Third Tuesday of month Feb to Nov (Second Tuesday Dec). Doors open 6pm, meeting starts at 6.30pm at: ARC Disability Centre, 92 Little Street, Manunda

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