Permaculture Cairns Newsletter

EMPOWERING COMMUNITIES WITH SUSTAINABLE SOLUTIONS

Care for the Earth, Care for people, Fair share the excess

Permaculture Cairns Incorporated **Web Site: www.permaculturecairns. org.au**

MAY NEWSLETTER

PERMACULTURE CAIRNS MEETING

Tuesday 16th May 6pm for a 6.30 start

ARC Disability Centre 92 Little Street Manunda

Members free, but bring some nibbles for the cuppa break
and a dollar for the raffle, which helps pay for the venue.
Non- members $5

AGENDA

Welcome to new members and visitors
Upcoming workshops and events
Permaculture Principle Number 5, a practical explanation.

Guest Speakers:

Shaneen Fantin, Architect, from "People Orientated Design" will talk about sustainable and appropriate development for Northern Australia.

Carol Laing will teach us how to grow Paddy Straw Mushrooms in our backyards.

Plant of the Month, Tool of the Month, Tip of the Month etc and if anyone has something to add please bring it up at the night before we go for a cuppa and nibbles.

Meeting close and now time for a chat, a cuppa and a snack with like=minded people

All finished by 8.30pm.

Permaculture Principle No. 5

Use & value renewable resources & services

"Let nature take its course

Make the best use of nature's abundance to reduce our consumptive behaviour and dependence on non-renewable resources.

The horse icon represents both a renewable service and renewable resource. It can be used to pull a cart, plough or log and it can even be eaten – a non- consuming use is preferred over a consuming one. The proverb "let nature take its course" reminds us that control over nature through excessive resource use and high technology is not only expensive, but can have a negative effect on our environment.

Growing Food in MAY in the Tropics

The garden is looking good and the cool mornings are wonderful. Plenty to eat as well - rocket, lettuce, parsley, kale, amaranth, eggplant, wom bok, bok choy, sweet potatoes, shallots, basil and lots of herbs. And the beans, coriander, cabbage, peas, broccolini, cucumbers, capsicum, tomatoes, tatsoi, wom bok are growing fast and will soon be pickable. What a wonderful time in the garden.

Keep sowing those seed each couple of weeks to ensure a continuing crop.

Most seedlings take about a month to grow to transplant size.

The experiments this month - Growing Oyster Mushrooms

Tradd Cotter, in his book Organic Mushroom Farming and Mycoremediation writes about growing Oyster Mushrooms on layers of cardboard sprinkled with chook manure and mushroom spawn, placed in a container and kept moist for a month till the mycelium grow.

AND

Growing Oyster Mushroom on Coffee grounds using a lidded plastic container, where layers of coffee grounds from a heated coffee machine are sprinkled with Oyster Mushroom Spawn until the container is full. Keep lid on during process but leave a small gap for air. Once the mycelium cover the top, drill some holes in the sides of the container to allow the mushrooms to escape.

If you want to try this, Oyster Mushroom Spawn is available from Bunnings near the seeds.

I believe the Pearl or Pink ones are the easiest to grow.

Cheers Carol

Introduction to Aquaponics

Saturday 27th May
9am-12:30-pm
Redlynch
Learn how to Grow Vegetables and Fish all in the One System.

$20

Register E: workshops@permaculturecairns.org.au Ph: 0435 120 944

PERMACULTURE CAIRNS

BUILDING RESILIENT COMMUNITIES WORKSHOPS

Sponsored by Cairns Regional Council

Permaculture Cairns Workshop

Grow Your Own Nutrient Dense Food

Sunday 14th May 9am to 1pm
Presenter: Carol Laing

Topics In this workshop
Soil structure, soil pH testing, re-mineralising & balancing minerals
Increasing organic matter and microbes in soil.
Composting: Static pile, Aerobic, Anaerobic, Compost bin, Bokashi bin
Plants to grow for improving soil,
Lime, Dolomite, and Gypsum explained;
Introduction to Tropical Perennial Vegetables.

Workshops will be held on a permaculture property in Cairns.

COST: $30 includes morning tea, workshop notes, seeds/cuttings and a fertiliser sample

Interested? contact me Carol Laing at – newsletter@permaculturecairns.org.au

My growing experience: Commercial vegetable grower for 6 years, plant nursery owner/operator for 10 Years. Study:- Certificate in Horticulture 1983, a two weeks Permaculture Design Certificate Course 1992, Microbe Course and Chromatography Course with Mas Humas 2012, Elaine Ingham's online Microscope Course' 2013, Graeme Sait's 4 day Nutri tech Solutions, Certificate in Nutrition Farming 2014, and while attending National Biological Farming Conference 2016 I attended David Hardwick's Workshop on Soils. Other Soil workshops I have attended are with Terrain, Northern Resource Management and FNQ Biodynamics. I have an extensive library on many subjects, but mostly on how to grow food using the microbes in the soil.

Workshops are all conducted with
Permaculture Ethics, Principles and Practices in mind.

Workshops and Events

Biodynamics FNQ Events Calendar 2017

June 11th Sunday 10. – 3.30
Life in the Soil
Soil Food Web and Chromatography and Microscopy
Patrick English Pavillion
Malanda Showgrounds
Bring food to share for lunch

Enquiries: Simon Harden 07 40977837 Cheryl Kemp 4095 1119.

Learningfromnature.com.au
(61)7 4069 5058
wendyseabrook@learningfromnature.com.au
Dr Wendy Seabrook, Director

GROWING HEALTHY FOOD WITH LESS HARD YAKKA

Two-day course - Saturday 10th and 11th June 2017 at Hill Top Farm, Cooktown Queensland

Growing healthy food doesn't need to be such hard work. Redesign your garden to grow yummy food more reliably and with fewer costs. At our course 'Growing healthy food with less Hard Yakka' you'll have fun designing an ecological makeover for your garden. Letting nature give you a helping hand. Creating an enchanting garden, you'll have more time to enjoy, and a safe space for your children to play, picking passion fruit, paw paws and pomelos …

GETTING TO THE HEART OF PERMACULTURE DESIGN

Four-day course - 15th – 18th July 2017 at Hill Top Farm, Cooktown Queensland

At this 4-day course, we'll take you on a journey to the heart of Permaculture Design.

As Bill Mollison said – at its heart Permaculture mimics nature. He understood that by learning from nature we can make our gardens, farms, and communities sustainable. In ways that are also productive, easier to manage, and better able to bounce back from extreme weather and other unchosen change.

In this course, you'll develop ways to bridge the gap between how your project operates and natural ecosystems perform using our Toolkit of Ecological Practices and Permaculture Design

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FNQ COMMUNITY EXCHANGE

Relocalising Far North Queensland

Calendar May 2017– LETS Local Energy Trading System

JULATTEN – Saturday 6th Mount Molloy Markets. Our LETS folk are having a combined community stall, pop in and say Hi and find out more about LETS Trading.

KOAH – Saturday 6th 9am – 1pm Monthly Market and Trade at Koah Community Hall. You are invited to be part of the local Koah Monthly Market, an excellent family friendly venue. This is a traditional cash market, however LETS members are welcome to participate and trade $5 or 5B per stall, set up from 8am. Event Host: Tonielle – 0422068995

ATHERTON – Saturday 6th 9am – 3pm Health and Well Being Expo Merrilands Hall. This is a free and child friendly event, so come along and have some fun. This is NOT a LETS event! More info on Tablelands Regional Council website: http://www.trc.qld.gov.au/tablelands-outdoor-recreation-health-wellbeing-expo/

MALANDA – Sunday 7th 10am – 12pm Trade in the Park, Eacham Memorial Park, opp. 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. Family friendly with playground next to it. BYO chair. Be there or be square! Event Host: Katrin - 40966755 or 0417822446

RAVENSHOE – Tuesday 9th 2pm Octopi Garden. Bring along something to trade, a friend and a positive vibe. Trading and sharing is key to the success of all events no matter the numbers. Most importantly have fun. Event Host: Hayley - 0416 528 177

WONGABEL – Saturday 13th Wongabel Stable's Open Day/Working Bee. People needed to keep the billy boiling, serve out morning tea, maybe lead the horses for short children's rides. Bring a plate to share for Lunch so that my horse people (who have given up their regular ride to help) can relax and enjoy your company. Kid friendly event at the Tree House. Event Host: Sheila - 4091 2070

ATHERTON – Saturday 20th May – Working Bee @ Irene's Organic Vegetable Garden, 17 Evens Street. Jobs include: weeding, cutting banana stems, digging out banana stands, trimming trees, removing concrete paving, planting seeds and plants, collecting rocks and laying a rock edge in various places, harvesting turmeric and building dragon fruit supports. Morning Tea and Lunch will be provided. Event Host: Irene - 4091 4876

YUNGABURRA – Saturday 27th 12 - 2pm that retro cafe Market Day & Trade day. The RED SHEDS SHOPS, 20 Eacham Road. This event is the directly after the Yungaburra Markets AGAIN! Come along & combine your market shopping with some LETS trading and then pop into the cafe for a cuppa. That retro cafe is offering drinks from the menu for 100% Bartles, you will need cash for lunch and drinks from the display fridge. Bring along something to trade a rug to display your wares. Ms Pamela offers a children workshop for 100% Bartles: "Get creative or play with clay", next to the trade area. Event Host: Melitta – 4095 2340

CAIRNS – Sunday 28th 10am – 7pm ECO Fiesta, Wharf Terminal. This NOT a LETS event! More info on Cairns Regional Council: http://www.cairns.qld.gov.au/communityenvironment/sustainability/ecofiesta. FNQ Community Exchange will have a stall with some LETS trading happening for new members. If you haven't

joined up yet, but are very keen to become part of FNQ Community Exchange, you can join on the day and trade straight away. Helpers are still needed to man the stall!! If you are enthusiastic about LETS and like to join up people, please pm Katrin - 40966755 or 0417822446. (Even if it's only for 1hr, all help is welcome!)

Cairns City Trade at 'Lafew Teahouse & Kombucha Bar'.LETS relies on member initiative and participation to make events happen.Lafew Teahouse & Kombucha bar is available on Sundays between 12-2pm for trade days. Lorna, however, will not be there to organise it. Lorna invites anyone in Cairns to create with the space a place to trade – the shaded garden area out the back is also great. Contact Lorna for more info – 0475 762 838

May 15th - DEADLINE FOR MARCH CALENDAR May 15th - DEADLINE FOR MARCH CALENDAR

All All details to Melitta - fnqces@gmail.com or 40952340 to be included in Calendar, Website, Facebook and other Promotions 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. fnqces@gmail.com - 4096 6972 - www.fnqces.org - www.communityexchange.net.au

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For more info on the Convergence check out the website" - ipcindia2017@permacultureindia.org

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Website for Permaculture videos info and blogs

Permaculturenews.org/category/how to

AND

Geofflawtononline.com

Check out the Friday Fives, join up for insights and benefits

SIMPLE ESPALIER TECHIQUE

Justin Russell shows you a simple espalier technique, perfect for small-space growing, plus his top 10 trees for training.

Photo: Alamy
Trained trees

One of the issues with growing fruit in small spaces is the footprint the tree occupies at ground level. Most small gardens will have some vertical height available for a tree to fill, but ground space might be limited to just half a square metre or less. The solution to this dilemma is to shape trees to grow vertically, while severely restricting their horizontal growth.

The most restricted training form available is the cordon. This is just a single stem, with very short side branches that bear fruit. It is best used on apples, pears, currants, gooseberries and other trees that form long-lived fruiting spurs.

A more expressive form of training is espalier. Dozens of different patterns can be used, from very small 'stepover' apples trained to a 50cm-tall 'T' shape, to multiple T espaliers that consist of a series of T shapes stacked on top of each other.Because the branch arms become a permanent part of the tree structure, espalier training ideally suits spur-forming varieties such as apples, pears and plums.

Fan (or palmette) training is a technique suited to larger-growing trees and those that don't produce fruiting spurs. The shape resembles a Japanese rice-paper fan, or a hand with outstretched fingers. The palm of the hand represents the trunk of the tree, with each finger representing a branch. Fan training works well for figs, peaches, cherries, nectarines, quinces, citrus, olives, persimmons, pomegranates, as well as the spurs described above.

Simple espalier technique

1. String rows of wire against your wall (at least 30cm apart). Plant tree in a central position and cut growth below the bottom wire. In the first year, trees should put out good growth.

2. Cut all growth except the top two strongest shoots, which are tied to the bottom wire.

3. Tie tips down and cut away all growth except one central upright that grows to the next wire. Repeat process in following years: tie tips down and cut upright growth.

4. Maintain by cutting upright growth in subsequent years. Mature fruit is easily netted.

Top 10 fruit tree choices for training

1. Apples and pears: Espalier, cordon, fan training and stepover.
2. Apricots: Fan training.
3. Citrus: Fan training.
4. Currants and gooseberries: Espalier, cordon and fan training.
5. Figs: Fan training.
6. Peaches and nectarines: Fan training.
7. Plums: Fan training.
8. Sapote: Fan training and espalier.
9. Sweet and sour cherries: Fan training.
10. Tamarillo: Fan training

For more on growing in small spaces grab your copy of ABC *Organic Gardener Essential Guide: Urban Farming* OUT NOW!

Got something of interest, send it to newsletter@permaculturecairns.org.au.

News from Home and around The World

Lemon eucalyptus oil could be a much safer and more natural weapon than DEET. The Centre for Disease Control in USA

The CDC confirmed that lemon eucalyptus oil can be as effective as DEET in repelling mosquitoes.

Oil of lemon eucalyptus [active ingredient: p-menthane 3,8-diol (PMD)], a plant- based repellent, is also registered with EPA. In two recent scientific publications, when oil of lemon eucalyptus was tested against mosquitoes found in the US it provided protection similar to repellents with low concentrations of DEET

Concerns with DEET
The most serious concerns about **DEET are with the central nervous system**:

Dr. Mohammed Abou-Donia of Duke University studied lab animals' performance of neuro-behavioural tasks requiring muscle co-ordination. He found that lab animals exposed to the equivalent of average human doses of DEET performed far worse than untreated animals.

Children with DEET toxicity reported lethargy, headaches, tremors, involuntary movements, seizures, and convulsions though the amount that led to this toxicity was unreported, according to the **CDC**. (From Treehugger)

Food as medicine: why do we need to eat so many vegetables and what does a serve actually look like?

From The Conversation online

Most Australian adults would know they're meant to eat two or more serves of fruit and five or more serves of vegetables every day. Whether or not they get there is another question.

A recent national survey reported 45% of Australian women and 56% of Australian men didn't eat enough fruit. And 90% of women and 96% of men didn't eat enough vegetables. This figure is worse than for the preceding ten years.

Men had on average 1.6 serves of fruit and 2.3 serves of vegetables per day, and women had 1.8 serves of fruit and 2.5 serves of vegetables. A serve of fresh fruit is a medium piece (about 150 grams) and a serve of vegetables is half a cup of cooked vegetables or about a cup of salad.

Why do we need so many veggies?

A high intake of fruit and vegetables lowers the risk of type 2 diabetes, heart disease, stroke and some cancers. These chronic diseases are unfortunately common – it's been estimated A$269 million could have been saved in 2008 if everyone in Australia met fruit and vegetable recommendations.

The recommendation to include plenty of vegetables and fruit in our diet is based on a large body of evidence showing the risk of a range of health conditions is reduced as we eat more fruit and vegetables. The specific targets of two serves for fruit and five to six serves for vegetables are largely based on nutrient requirements for healthy people and what diets usually look like for the average Australian.

So to set these guidelines, certain assumptions are made about dietary practices, such as breakfast being based around cereal/grain and dairy foods, and main meals being comprised of meat and vegetables, usually with a side of something starchy like rice, pasta or the humble potato – an Australian staple.

Does this mean it's the only pattern to meet all the nutrient requirements? No. Could an adult be equally healthy if they ate three serves of fruit and four serves of vegetables? Yes, probably.

Some recent research even suggests our current targets don't go far enough. It estimates an optimal intake for reducing our risk of heart disease and early death to be around ten serves of fruit and vegetables a day. Whether we are aiming for two and five, or ten serves, is somewhat academic – the clear message is most of us need to increase our fruit and vegetable intake.

Why is two and five such a hard ask?

The populations of most Western countries report eating far less fruit and vegetables than they're supposed to. So what's making it so hard for us to get to two and five?

Diets higher in fat, sugar and grains are generally more affordable than the recommended healthy diets high in fruit and veg. In fact, for Australians on low incomes, a healthy food basket for a

fortnight would cost 28 to 34% of their income, up to twice the national average for food expenditure.

As a result, people with limited access to food for financial reasons often choose foods with high energy content (because they are filling) over those with high nutritional value but low energy content like fruit and vegetables. These high-energy foods are also easy to over-consume and this may be a contributing factor to weight gain. People who are poorer generally have a diet poorer in quality but not lower in energy content, which contributes to a higher rate of obesity, particularly in women.

Fresh fruit and vegetables cost more to purchase on a dollars per kilojoule basis, and also perish more quickly than processed foods. They take more time and skill to prepare and, after all of that effort, if they don't get eaten for reasons of personal preference, they go to waste. For many it may not stack up financially to fill the fridge with fruit and vegetables. Under these circumstances, pre-prepared or fast food, which the family is sure to eat without complaint or waste, is all too convenient.

How we can increase veggie intake

The home and school environments are two key influencers of children's food preferences and intakes. Parents are the "food gatekeepers" and role models particularly for younger children. Where there is parental encouragement, role modelling and family rules, there is an increased fruit and vegetable intake.

Dietary behaviours and food choices often start in childhood and continue through adolescence to adulthood. So encouraging fruit and vegetable intake in schools by mechanisms such as "fruit snack times" may be a good investment.

Policy approaches include subsidies on healthy foods. Other examples include levying a tax on foods of low nutritional value, improved food labelling, and stricter controls on the marketing of unhealthy foods. In Australia debate continues around a tax on sugar-sweetened beverages, which could be used to subsidise healthy foods such as fruit and vegetables.

Research has found the more variety in fruit and vegetables available, the more we'll consume. Those who meet the vegetable recommendation are more likely to report having at least three vegetable varieties at their evening meal. So increasing the number of different vegetables at the main meal is one simple strategy to increase intake.

This could be made a journey of discovery by adding one new vegetable to the household food supply each week. Buying "in season" fruit and vegetables and supplementing fresh varieties with frozen and canned options can bring down the total cost. Then it's a matter of exploring simple, quick and tasty ways to prepare them so they become preferred foods for the family.

A guide to eating enough fruits and vegetables

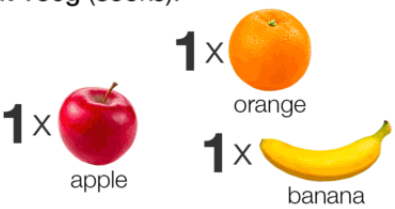
The '5 and 2' dietary guideline recommends that we eat at least **five serves of vegetables** and **two serves of fruit** every day.

What exactly is a serve of fruit or vegetable?

Fruits

A standard serve of fruit is about **150g** (350kJ).

This is equivalent to a single medium-sized fruit, such as an apple, banana, orange or pear.



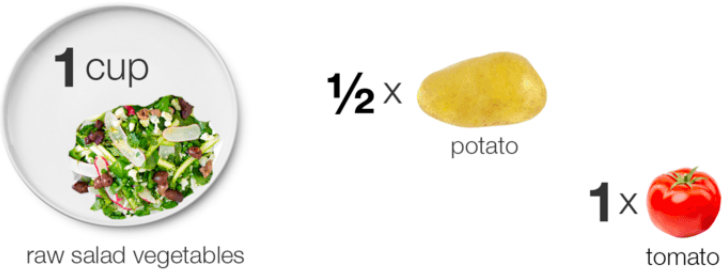
Or two small fruits such as apricots, kiwi fruits or plums.

Vegetables

A standard serve of vegetable is about **75g** (100–350kJ).

This is equivalent to ½ cup of cooked green or orange vegetables like broccoli, or pumpkin. Or ½ cup of cooked dried or canned beans, peas or lentils (preferably with no added salt).

Or 1 cup of green leafy or raw salad vegetables, or ½ a medium-sized starchy vegetable such as potato, sweet potato, taro or cassava. A medium-sized tomato is also equivalent to a single serve of vegetable.



Source: Australian Dietary Guidelines 2013

A New Zealand River Now Has The Legal Rights Of A Human

March 16, 20176:09 PM ET From NPR.org

Māori paddlers guide a boat down the Whanganui River in New Zealand, during a visit from Britain's Prince Harry in 2015. **Chris Jackson/Getty Images hide caption**

toggle caption
Chris Jackson/Getty Images

Māori paddlers guide a boat down the Whanganui River in New Zealand, during a visit from Britain's Prince Harry in 2015.
Chris Jackson/Getty Images

For the first time in New Zealand's history, the country's lawmakers have granted a river the legal rights of a human. The parliamentary vote Wednesday, which caps more than 140 years of legal struggles, ensures the roughly 90-mile Whanganui River will be represented by two guardians in legal matters that concern the waterway.

The legislation marks a monumental victory for the local Māori people, who view the river as "an indivisible and living whole," Gerrard Albert, lead negotiator for the Whanganui tribe, tells The Telegraph. "It has been a long, hard battle" to earn legal recognition of the river, which is known by the Māori as Te Awa Tupua.

Under that name, the river will be appointed representatives — one each from the tribe and the government — in court proceedings. And the BBC notes the settlement also includes $80 million in financial redress and $30 million toward improving the river's health.

"It's not that we've changed our worldview, but people are catching up to seeing things the way that we see them," Adrian Rurawhe, a Māori member of Parliament, tells the New Zealand Herald.

It is, however, a new concept for New Zealand's government — and one it took a long time to come around to. The Herald reports the local Māori have sought to obtain legal protections for the Whanganui River since 1873, giving rise to "one of New Zealand's longest running court cases."

With the news that their generations-long efforts have finally succeeded, the hundreds of tribal representatives on hand for the moment "wept with joy when their bid to have their kin awarded legal status as a living entity was passed into law," according to The Guardian.

In the legislative chamber the Māori present sang a waiata, or a traditional Māori folk song, in celebration.

Chris Finlayson, New Zealand Minister for Treaty of Waitangi Negotiations, admitted the arrangement is a unique one in the country's history — but he says it's not as unfamiliar as you may think.

"I know the initial inclination of some people will say it's pretty strange to give a natural resource a legal personality," Finlayson says, according to the BBC. "But it's no stranger than family trusts, or companies or incorporated societies."

In the end it's a matter of recognition, Finlayson tells Buzzfeed News.

"This legislation recognizes the deep spiritual connection between the Whanganui Iwi [tribe] and its ancestral river, and creates a strong platform for the future of Whanganui River."

Ganges and Yamuna rivers granted same legal rights as human beings

Indian court cites the Whanganui in New Zealand as example for according status to two rivers considered sacred

Tuesday 21 March 2017 22.44 AEDT First published on Tuesday 21 March 2017 20.27 AEDT

The Ganges river, considered sacred by more than 1 billion Indians, has become the first non-human entity in India to be granted the same legal rights as people.

A court in the northern Indian state of Uttarakhand ordered on Monday that the Ganges and its main tributary, the Yamuna, be accorded the status of living human entities.

The decision, which was welcomed by environmentalists, means that polluting or damaging the rivers will be legally equivalent to harming a person.

The judges cited the example of the Whanganui river, revered by the indigenous Māori people, which was declared a living entity with full legal rights by the New Zealand government last week.

Judges Rajeev Sharma and Alok Singh said the Ganges and Yamuna rivers and their tributaries would be “legal and living entities having the status of a legal person with all corresponding rights, duties and liabilities”.

The court in the Himalayan resort town of Nainital appointed three officials to act as legal custodians responsible for conserving and protecting the rivers and their tributaries. It ordered that a management board be established within three months.

The case arose after officials complained that the state governments of Uttarakhand and neighbouring Uttar Pradesh were not cooperating with federal government efforts to set up a panel to protect the Ganges.

Himanshu Thakkar, an engineer who coordinates the South Asia Network on Dams, Rivers and People, said the practical implications of the decision were not clear.

“There are already 1.5bn litres of untreated sewage entering the river each day, and 500m litres of industrial waste,” he said.

“All of this will become illegal with immediate effect, but you can’t stop the discharge immediately. So how this decision pans out in terms of practical reality is very unclear.”

Indian courts have been critical of three decades of government efforts to clean up the Ganges, a 2,500km waterway named after the Hindu goddess Ganga. The latest cleanup initiative has set 2018 as its deadline, one that water ministry officials have reportedly conceded is unlikely to be met.

Thakkar said Monday’s decision could be an effort by courts to broaden their scope for intervention in the river’s management. “[The] government has been trying to clean up the river by spending a lot of money,

putting in a lot of infrastructure and technology, but they aren't looking at the governance of the river," he said.

He gave the example of the Yamuna, which is monitored by 22 sewage treatment plants in Delhi. "But none of them are functioning according to their design in terms of quantity and quality, and we don't know the reason," he said.

"You need a simple management system for each of the plants and give independent people the mandate to inspect them, question the officials and have them write daily and quarterly reports so that lessons are actually learned."

Environmental activists say many rivers in India have become dirtier as the economy has developed, with city sewage, farming pesticides and industrial effluents freely flowing into waterways despite laws against polluting.

The Yamuna is the main tributary of the Ganges that officials say is tainted with sewage and industrial pollution. In some places, the river has stagnated to the point that it no longer supports life. Water from the Yamuna is treated chemically before being supplied to Delhi's nearly 19 million residents as drinking water.

In New Zealand, the local Māori *iwi*, or tribe, of Whanganui in the North Island had fought for the recognition of their river – the third largest in New Zealand – as an ancestor for 140 years.

Last Wednesday, hundreds of tribal representatives wept with joy when their attempt to have their kin awarded legal status as a living entity was passed into law.

"We have fought to find an approximation in law so that all others can understand that, from our perspective, treating the river as a living entity is the correct way to approach it, as an indivisible whole, instead of the traditional model for the last 100 years of treating it from a perspective of ownership and management," said Gerrard Albert, the lead negotiator for the *iwi*.

India set to start massive project to divert Ganges and Brahmaputra rivers

Ambitious scheme to channel water from regions with a surplus to drought-prone areas could begin in days, but Bangladesh has raised concerns
Read more

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"Are we being left behind in Australia in making laws to save our environment??????"

Confessions Of A Community Garden Coordinator

APRIL 18, 2017 BY REBECCA MCCARTY & FILED UNDER COMMUNITY, COMMUNITY PROJECTS

Since it is now April, and because spring is (finally!) officially upon us up here in Minnesota in the United States, we're about to start the next growing season in the community garden that I help to plan and coordinate for. For me, the garden absolutely comes with some excitement of yet another opportunity to grow our own food, to build community, and to get outside and spend some time in nature after being cooped up indoors all winter long.

However, it also comes with many of the responsibilities of management in the human realm. This is a level of management that I hadn't really fully contemplated when I first got involved with the garden. I don't really regret my involvement with the garden by any means, but there are many things that I've learned so far through my experience as a founding member of a community garden planning and coordinating team since it was established five years ago.

I would like to share just a few of the things that I have learned along the way in community garden planning and coordinating. I hope that by sharing my experiences about the community garden that I am involved with, it will help you if you are considering starting a community garden yourself.

Or perhaps if you are involved in a community garden primarily as a member who uses a community garden plot, you can gain a broader perspective about what it takes to make something like a community garden happen and be maintained.

1. COMMUNITY GARDENS ARE ABOUT GARDENS, BUT THEY ARE ALSO ABOUT COMMUNITY.

"Well, of course, isn't that obvious?" you might be saying.

Well, for me, being an introvert by nature and as someone who is very passionate about local and sustainable food production, I must admit that at first, I was so focused on the idea of growing food and dreaming of having others join in that endeavor (and of course, everyone involved would see the importance of growing things organically and sustainably, right?), and I just knew that some sort of community would be occur and be involved in there somehow.

Right…

What I have come to understand since our garden's founding is how much the human element of a community garden really matters. Much of what I have done in my role of managing the garden is:
– Managing communications to people through emails and by phone,
– Managing garden registrations of people,
– Planning our yearly orientation with and for people,
– Meetings with people,
– Coordinating events for people,
– Working through the conflicts of people,
– Convincing people to do their fair share of caring for the garden, and

– Working and meeting with people at our church to move forward on decisions that impact our garden (since our garden is on the church's grounds).

Seeing a pattern? Yup, *people*! The human element of a community garden in many ways can far eclipse the actual gardening part. Not that there aren't a lot of activities involving actually gardening itself, but if you are looking to start a community garden, the people emphasis is something that you must prepare yourself for.

2. BURNOUT CAN HAPPEN, EVEN TO COMMUNITY GARDEN COORDINATORS.

As with any other activity or group that we are a part of, we can get burned out by all of the activities and the responsibilities that go with it.

This is why it is so important to share the responsibilities of managing the garden with a large team. There are so many things to do each season that if those tasks continue to fall on the same people all of the time, they will quickly get burned out and probably eventually quit.

There must be a large enough leadership team to adequately share the management responsibilities, and you should recruit additional leaders from within your garden member community to help out when necessary. Perhaps you might have a rotating leadership schedule so that it is not all of the same folks doing all of the responsibilities all of the time.

It is also imperative that all garden community members understand that with their gardening participation comes the necessary responsibilities of not only the general upkeep of their plot, but also helping to maintain the community garden as a whole.

One of the biggest struggles that we have had in our community garden is that the gardeners who participate tend to get really excited at the beginning of the season to grow things, but then when the season is in full swing and people get really busy with their lives, many of them only end up taking care of their own plots, and in some cases, even their own plots suffer.

This phenomenon of having a lot of motivation at first for something but then not being so excited about all that is involved with it later is admittedly human nature, and we all have

busy lives, but the gardeners must have a good understanding of what is involved with being a part of a community garden ahead of time.

Finding ways to increase the participation of helping out in the garden and with the garden's tasks can be really challenging, but they are critical in helping the management of the garden to go more smoothly for everyone involved.

To hopefully improve this issue for our community garden this year, I decided to include a "Volunteer Interest Form" with our gardener registration. This hopefully gives garden members sufficient time to consider how they can be involved in helping to maintain our garden before we hold our yearly start of the season orientation meeting.

3. BECAUSE A COMMUNITY GARDEN IS A COMMUNITY OF PEOPLE WITH DIVERSE VIEWS ON GARDENING STYLES, THEY MAY OR MAY NOT GARDEN EXACTLY THE SAME WAY THAT YOU WOULD.

You can establish rules for the garden that no chemicals are to be used, but beyond that, individual gardeners will likely differ in how they will manage their plots.

Not every gardener is going to approach the management of their garden plot from a permaculture perspective, and we as permaculture-minded gardening planners and coordinators need to be okay with that. For instance, some gardeners may prefer to till the soil within their plots, while others may not.

You ultimately have to learn to fight your battles of what is most important here, which is getting people outside to grow their own food, herbs, or flowers, and not using conventional agricultural chemicals to grow plants.

As with any plans in life, you may find that your original expectations will need to change and be scaled back. It is certainly important to have rules and expectations in place for all members of the community, and you can educate gardeners about the ways that you believe that approaching gardening will be best for the planet and for the plants themselves, but in the end, you have to let certain things go.

4. COORDINATING A COMMUNITY GARDEN CAN TAKE A LARGE COMMITMENT OF YOUR TIME.

To many, this point may be well understood. However, it is important to know that if you are coordinating and planning a community garden, the time commitment may be substantial given all of the administrative tasks involved, actually participating in caring for the garden, and the people communication and the people management aspects before, during, and after the gardening season.

It can really be a lot to manage if your community garden is entirely run by volunteers, as mine is, and you have lives outside of the garden (and who doesn't?). This is especially why it is important to have a larger management team who can help you with all of these tasks, and to recruit other volunteers for leadership when necessary. By sharing the responsibilities, the time for each individual leadership team member should not be as overwhelming.

5. IF THEY ARE WILLING, CONSIDER HAVING YOUR GARDENERS DONATE THEIR EXTRA PRODUCE TO THOSE IN NEED.

Part of having a garden is deciding what to do with all of that extra produce that you may not use. In the case of a community garden, you may decide as a group that you would like to donate your extra produce to a community food shelf or to another organization that helps those in need.

Donating your extra produce will not only help to share the abundance of your harvest and prevent anything from hopefully going to waste, it will provide some really appreciated fresh produce to those who cannot afford to have some very often.

CONCLUSION

These things are just some of what I have learned over the last five years of managing a community garden. I hope that my experiences will help you as you consider your involvement in starting a community garden. Know that sometimes such an endeavor can be challenging, but know that it is well worth the effort, and you are making a difference in people's lives and in your community simply by providing a place where others can grow food.

As permaculturists, we can help to educate people about some very important things in a community garden such as learning the importance of healthy soil and its role in nature, composting, helping pollinators, spending time outdoors when many of us now work and live our lives almost entirely indoors, and working together as a team. These experiences have the potential for some people to transform their outlook from being consumers to being producers and being a part of nature by participating in those processes.

And, let's not forget that gardening can be a great way to reduce stress, get some exercise and eat some truly fresh, truly local, and truly nutrient dense foods, which are getting increasingly difficult to find in supermarkets today.

We can "be the change we wish to see" just by being good stewards of the soil underneath our feet and helping others to do the same.

"As a new Community Garden is being established in Holloways Beach I thought it might be helpful to read how others have managed in the same situation " Editor.

Crop probiotics: how more science and less hype can help Australian farmers

April 21, 2017 11.14am AEST from The Conversation newsletter

Australian farmers are at risk of missing out on a global boom in "crop probiotics", because lax regulations make it less likely the supplements they buy to boost their crops will actually work.

Similar to the probiotics that offer health benefits for humans, certain natural bacteria can make crops healthier, hardier and more productive, by increasing their resilience to pests, pathogens and environmental stresses and improving access to soil nutrients.

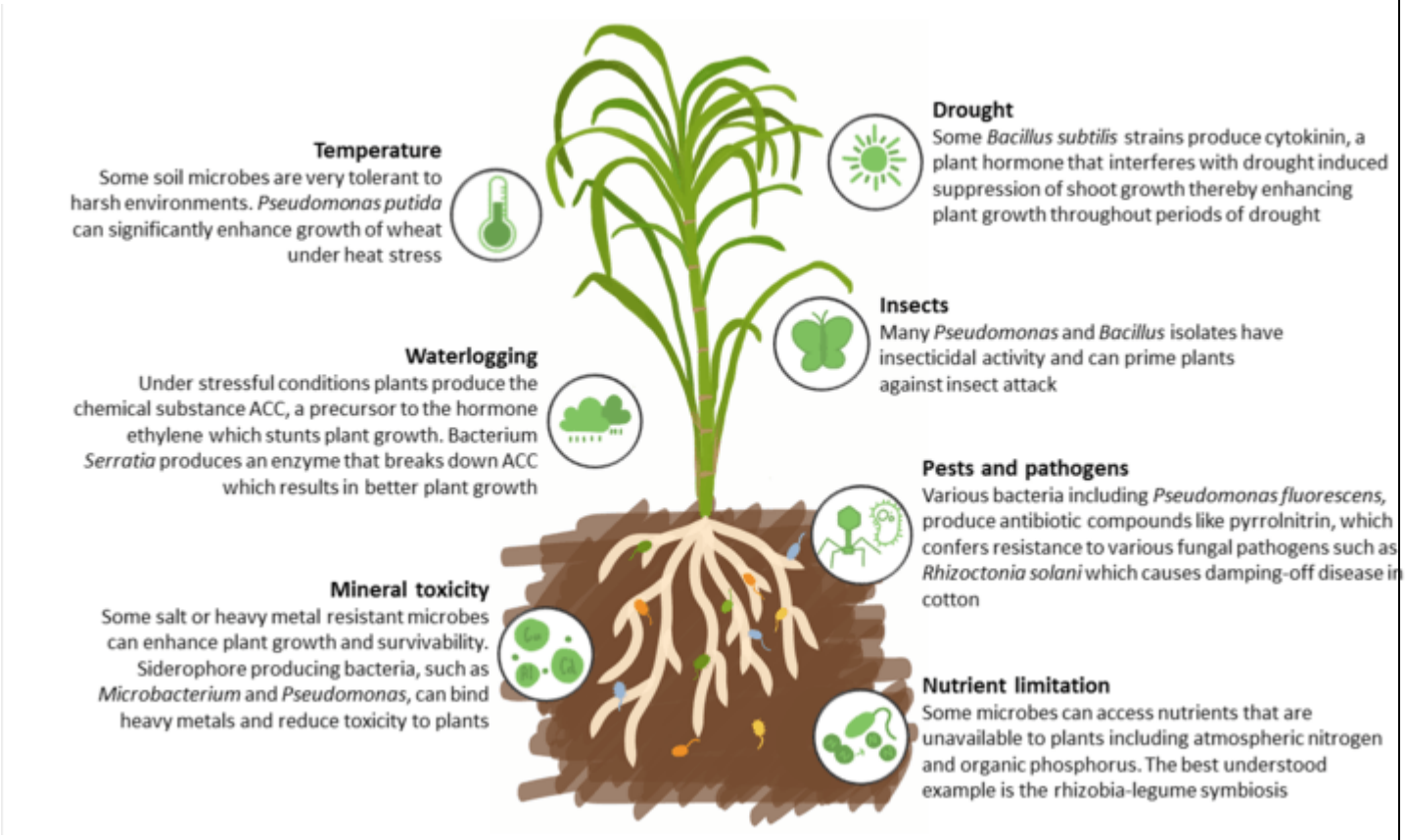
But our research has found that the quality of products sold as "biostimulants" in Australia (which includes crop probiotics) varies wildly, with many available that do not deliver the promised benefits.

This potentially deprives our farmers of genuine products developed and tested with scientific principles. It muddies the waters, as companies selling effective products compete with those peddling "snake oil". It also raises concerns about biosafety: importers can simply tick a few boxes and claim there aren't pathogens in the bottle, without hard proof.

How do crop probiotics work?

Bacterial biostimulants naturally form a mutually beneficial bond with plants. One of the better known examples involves legumes, like clover and soybeans, which have rhizobia bacteria living in their roots. Rhizobia absorb nitrogen from air and deliver it as a natural fertiliser to their plant host in a symbiotic exchange.

As well as helping the plants thrive, farmers can use legumes to replenish nitrogen in soil, reducing the use of man-made nitrogen fertiliser. This symbiosis has been researched for over a century, and is well understood.



Examples of the benefits that crop beneficial bacteria can provide to crops. Click image to enlarge. © Shelby Berg, Author provided

While we know less about other crop-beneficial bacteria, our understanding is growing. Microbes have been found that make crops more resistant to heat, waterlogging, drought and certain diseases.

But although the effects have been studied extensively in laboratories, it's a big step to translate fundamental science to farm-relevant application.

Many factors, including the particular crop, soil and climate, influence the effectiveness of crop probiotics. The bacteria must survive transport and storage, and have to associate effectively with crops in the presence of many potentially competing microbes.

The communication between beneficial bacteria and crops is finicky as both partners have to produce mutually understandable chemical signals. We listened in on the conversation between beneficial Burkholderia bacteria and sugarcane, confirming that both undergo complex change to accommodate the partnership.

Finding the right microbes and making them work with crops in field settings remains difficult. Each group of useful microbes has many species and subtypes, and only few generally convey benefits, and often only in certain situations. Scientists are working to address these constraints.

Bold claims, inconsistent results

While crop probiotics offer an ecologically friendly option for farmers looking to improve and protect their harvests, the Australian market is far from reliable.

Our research group was asked to evaluate commercial crop probiotics. Over a year of experimentation on a sugarcane farm, we tracked the supposedly beneficial bacteria and fungi of two Australian probiotics products from soil to crop.

DNA analysis didn't detect changes in root-associated bacteria, but the composition of root-associated fungi changed. Whether these changes are meaningful is unclear, as the manufacturers didn't specify how the products work and which changes are to be expected. Clearly, studies over multiple years and sites are needed to confirm if and when products are beneficial.

The problem isn't that biostimulants don't work in principle. Many laboratory experiments have shown bacteria can help plants grow faster, stronger and bigger. But the real world is messy, with plenty of variables. Manufacturers who aren't pushed by legislation can take shortcuts, and nebulous marketing is common.

Soybean root nodules, containing billions of nitrogen-fixing rhizobia. via Wikimedia commons

Our second investigation involved a commercial seedling nursery. The international manufacturer of the probiotic didn't provide instructions for dosage, leaving us to guess at the correct application rate. In the first round of experimentation, the seedlings died. Feedback from the manufacturer was quick: we had used the wrong dose.

The next round of research used a lower dosage, per the manufacturer's advice, that did not improve seedling growth. In its absurdity, this example highlights the need for tighter market regulation.

Since the benefits of currently available biostimulants are imprecise, many people are divided on their use. Better regulations would promote certainty, and prevent farmers wasting money on unreliable products.

The future of crop probiotics

Currently Australian regulations emphasise flexibility, offering multiple options for manufacturers to prove their crop probiotics work. But this leaves the door open for ineffective products.

Crop probiotics are currently regulated under the umbrella of pesticides (although they're often marketed as providing other benefits). The Australian Pesticides and Veterinary Medicines Authority guidelines say "up to 10 field trials may be required depending on the crop's economic importance", making it difficult to tell how many trials are expected. One industry partner we spoke to said that, while he has chosen to do field trials, he didn't have to supply that data to the APVMA to get his product registered.

Companies have to prove their products are "effective as per the label claims". But as we found in our research, this doesn't help when manufacturers exclude crucial information from their labels.

Manufacturers can sell probiotics that have been tested overseas, although studies "should be done under conditions that are typical of Australian climatic conditions". However, because they're not automatically required to retest in Australia, different soils, climates and crop types can render them essentially useless.

Consequently, many products exist on the Australian market which don't have clear label instructions for effective use, claim to work on an outlandish number of crops and don't even touch on the topic of which soils they work effectively in.

Australia contrasts with the European Union, which demands multi-step scientific testing of products. For a product to be permitted for use in agriculture, EU legislation requires 10 or more field trials, conducted over two growing seasons in different climates and soil types. Delivery methods and dosage must be evaluated and effects confirmed. Crop trials have to ensure

statistical validity. The EU has created an online database of detailed reports and standards that can be easily searched by the public.

These regulations have an impact on which biostimulants reach the market. European products often contain only one type of active microbe, as it's otherwise difficult to meet the strict criteria. On the other hand, many biostimulants sold in Australia contain multiple microbes that are not clearly classified on labels.

This makes it more difficult to tell what's actually in a product, how useful it will be under different conditions, or if it contains bacteria that are beneficial for certain crops but harmful for others.

We recommend that Australia adopts the EU model of a regulated biostimulant market to encourage investment. Scientifically rigorous, multi-year studies are also needed, to test and develop effective products.

There is much research expertise in Australia, but currently farmers must rely on marketing rather than science.

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Permaculture Cairns

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

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