

# Permaculture Cairns Newsletter

EMPOWERING COMMUNITIES WITH SUSTAINABLE SOLUTIONS FOR 10 YEARS



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

Permaculture Cairns Incorporated Web Site: [www.permaculturecairns.org.au](http://www.permaculturecairns.org.au)

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## PERMACULTURE CAIRNS OCTOBER MEETING

**Tuesday 16th October 6pm for a 6.30 start**

**Venue: Endeavour Learning and Lifestyle Building  
4 Warner Street (on corner with Monk Street) Manunda**

Members free, but bring some nibbles for the cuppa break, non-members \$5

### AGENDA

Welcome to new members and visitors

News items – Lots of events coming up, see the newsletter for details, havnt got the newsletter, you can subscribe for free on our website.

We will have two Guest speakers:

The Cairns Regional Council Waste Recycling Dept. will give us an update on our recycling program and include some tips for us recyclers.

Dale Perkins a JCU student will give us a talk on native pollinators in our gardens, ways to recruit them and their favourite native plants.

Craig will entertain us with his clay oven, biochar experiments

Carol will present a tool of the month used for composting and a new plant to the north.

Come early and check out the Library, Carol will be there at 5.30pm - Bring along your plants and seeds to trade for LETS bartels, real dollars or to swap

Carol will bring tropical perennial vegetables/herbs and seedlings for bartels/dollars or swap.

We appreciate members passing on their ideas and methods so talk to Jenny, Craig or myself if you would like to make a presentation at a meeting, that could be a few photos and a short story.

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

**All finished by 8.30pm.**

*HERE IS What happened at the last meeting for those that missed out. Hope you can make the October meeting.*

*We would like to thank our Guest Speakers Kurt Schoenhoff and Matthew Munsel from The Makers. A group who meet at TAFE on Thursday night at 5.30pm to make new products with a Three D printer, a laser cutter and they have invented a portable battery. Everyone is welcome to visit them and try making something. Their website is [www.themakers.org](http://www.themakers.org).*

*This was a very interesting presentation*

*Plant of the month was Tree Lettuce, two varieties were shown, growing conditions and an explanation of the difference between them was given..*

*A popular very easily grown selfseeding edible plant for the tropics.*

*Carol brought along a Tetragonula Clyperis Native Bee Hive with a viewing window so all could see the bees working inside..*

*On Sustainable House Day, Carol visited Kathy and Gareth who are endeavouring to establish The Kuranda Cohousing project.. Carol was given lots of information in the form of brochures and books. These books and brochures will be in our Library for your perusal.*

*Tropical Perennial plants were bought, Books were loaned from the Library, there were free magazines and seeds, and thanks goes to Judy Noller for the free dragon fruit and galangal planting material.*

*I big thank you to Carolyn and Robyn for helping me with new memberships and running of the Library, and for helping in the kitchen before and after the meeting. Thanks to all those helping with the chairs and tables... We can all enjoy the night more if everyone helps.*

## *Permaculture Cairns Working and harvesting bee At Carol's Place*

*Saturday morning 20<sup>th</sup> October starting early and going till its too hot .*

*The plan is to rejuvenate the Verge garden at Marsh Street Earlville. Presently growing on the verge are sweet potato, lemon grass, galangal, pigeon pea, Soursop. Pandan, Okinawa Spinach and flowering shrubs.*

*The jobs:- Harvest two patches of sweet potatoes. Remove some plants. Prune some plants. .Fertilise with rock dust, manure and compost. Replant with edible useful and colourful plants for birds and bees  
Mulch Mulch.Mulch*

*Benefits: Sweet potatoes for eating, plant cuttings and seeds to share,.  
Solar Oven in action provided there is sun.  
Tour the garden. Lunch and cold drinks*

*Things to bring: Hats, Gloves, closed in shoes and garden forks  
I will supply potting mix but please bring your own pots for propagating cuttings.*

*Tropical perennial vegetable plants in pots for sale at wholesale prices.*

*You must let me know you are coming so I can cater for all.  
email me at [info@permaculturecairns.org.au](mailto:info@permaculturecairns.org.au)*

*Permaculture Cairns Members Only*

*Here is the asked for recipe for the tonic made from*

## Fermented Turmeric and Ginger Tonic

Turmeric has a reputation as a great healthy ingredient. It can also add exciting flavour and colour to recipes. This tonic is tasty and refreshing, with a little effervescence from the natural fermentation of the honey. Have a little each day, or splash a little over meat or fish during cooking.

### Ingredients:

100mm piece of turmeric root, peeled and cut into chunks

100mm piece of ginger, peeled and cut into chunks

2 Tbsp. tamarind paste

Juice of 1 lemon

1/2 cup raw honey

4 cups of water

### Instructions:

1. Put the turmeric and ginger root in 4 cups of the water and heat to boiling. Boil at least 20 minutes, until the water becomes a rich golden yellow.
2. When the turmeric water is ready, add enough cool water to bring the temperature to just warm, and blend thoroughly to liquefy.
3. Add the tamarind paste to the blended mixture and blend again.
4. Add the lemon juice and honey, and blend once more.
5. Add enough cool water to bring the quantity up to 8 cups of liquid.
6. Distribute the blended tonic into small jars with tight lids, leaving 1 cm or 2 of head space.
7. Ferment at room temperature for 1-2 days, then refrigerate for storage.

The honey will gradually ferment, leaving the taste but not the sweetness. When you are ready to drink this, swirl to distribute the solids, or strain it before drinking if you prefer a clearer liquid.

Use a little in the second ferment of kombucha or water kefir.

Variations: Use some brewed tulsi (holy basil) tea in place of some of the water. Have a little each day to keep the doctor away. Keeps for ages in fridge.

*Here is another interesting use for Turmeric (I havnt tried this yet*

# Turmeric Ferment Recipe

There are a myriad of health benefits associated with the curcumin component of turmeric, including inhibition of colon, gastric and breast cancers. Unfortunately, turmeric in its raw form is not easily assimilated into the body, making it a challenge to increase the bio-availability of this superfood. One of my favourite ways to ferment turmeric is to make a “turmeric bug” similar to the ginger bug used to make ginger beer.

## HOW TO MAKE A TURMERIC BUG

### Ingredients

- 1 tablespoon coarsely grated turmeric root and/or ginger root (powdered ginger or turmeric may be used, but the fermentation process is a bit slower and may require added "food" - see below)
- 1 tablespoon sugar - refined or unrefined
- 3/4 cup filtered water

### Instructions

1. Place the freshly grated turmeric and/or ginger in bottom of wide mouth quart jar.
2. Add sugar. (If using powdered turmeric, consider adding a bit of apple peel to encourage the fermentation process.)
3. Add water and stir.
4. Cover with cloth and rubber band.
5. Place on shelf out of direct sunlight.
6. After 24 hours add 1 tablespoon grated turmeric, 1 tablespoon powdered turmeric, and/or 1 tablespoon grated ginger.
7. Add 1 tablespoon sugar. Stir well.
8. Replace cloth cover and leave on shelf.
9. Every 24 hours add 1 tablespoon turmeric or ginger, and 1 tablespoon sugar until you see bubbles on the surface of the water. This generally takes several days.
10. You may add additional water if desired. I have done it both ways with success in each case.
11. Strain and use in recipes or store in refrigerator. You may keep this ongoing and not refrigerate it. (This is a perpetual bug where some of the liquid is used for a recipe and the remainder is fed with root/powder, sugar and water.)

## TURMERIC & LIME SODA

Once you have your bug ready you can use it to make this yummy soda.

Directions:

1. Fill 2 Litre Mason jar with water allowing 5cm of head room.
2. Add 1/2 cup turmeric bug, 1/2 cup lime juice, and 3/4 cup sugar.
3. Stir.
4. Place on shelf away from direct sunlight.
5. Cover with cloth and rubber band. This fermented beverage involves yeast as well as bacteria which means that oxygen is required.
6. Allow to ferment for approximately 3 days. Some remaining sweetness is desired as the second fermentation will decrease the sugar further.
7. Strain and pour into flip top bottles or air tight container. (A Fido jar or airlock is optimal.) This step increases the carbonation which makes the drink fizzy!
8. Allow to ferment another day or two until desired taste is achieved.

\*Ginger bug may be used along with the turmeric bug to add flavour. Lemon juice may be substituted for lime juice

## WORMFARMING ?

*An article from Worm Farming Secrets where someone has asked*  
“What is the difference between worm farming and composting – which is better for your garden?”

Let's start with worm farming. It is a widely used term, and one that means different things to different people. I personally tend to use it fairly broadly, treating as an all-encompassing umbrella term for both vermiculture and vermicomposting (which can often be used interchangeably, thus adding even more confusion into the mix).

Vermiculture is literally "the culture of earthworms" - ie. the raising and breeding of worms. From a professional standpoint, pure vermiculturists tend to be focused on maximizing worm biomass and not nearly as interested in the material (castings) they produce. An example of a vermiculturist would be a bait farmer - someone much more interested in producing lots of fat fishing worms than the waste reduction or castings/compost production capabilities of the worms.

Vermicomposting is the biological decomposition of organic wastes via the joint action of worms and microorganisms (with the help of some other creatures as well). Pure vermicomposters will tend to be much more interested in the waste reduction and compost production capabilities of their worms, and will want to keep their population as high as possible to ensure maximum processing ability (and thus will be careful about how much worm harvesting they do, if any).

Those who set up small home systems for processing their food scraps are generally referred to as vermicomposters.

Of course it's important to mention that these definitions make things appear much more cut-and-dried than they actually are!

Vermiculture and vermicomposting are inextricably linked. You can't raise earthworms without some vermicompost production, and you certainly can't expect to process wastes and produce rich compost without a healthy thriving population of worms. Add to that the fact that many people focus on both sides of the coin (aiming to sell both worms and castings), and these terms start to seem like more trouble than they are worth.

Some might say it's all a matter of scale. Someone who is 'worm farming' might be thought to be more focused on a larger scale, professional approach (like pig farming or chicken farming), but again keep in mind that many people use the term more generally than that.

Getting back to your actual question (haha), I'm going to assume that your use of 'worm farming' is synonymous with 'worm composting' in this case. Thus we're looking at the difference between worm composting and 'regular' composting. Aside from the obvious difference relating to the presence and absence of worms, vermicomposting is also a cooler process than composting.

With that said, it's important to point out that many backyard composting units are not actually large enough for sustained heating to occur. The 'critical mass' needed for a hot composting pile is at least 1 cubic metre (you will still get heating in smaller heaps but it won't last as long or get as hot).

As far as which process is "better for your garden", that's hard to say. Each has its own set of advantages and disadvantages. If you are using one of the smaller backyard composters, I would definitely recommend adding composting worms. They will speed up the process a great deal, reduce odors and pest populations (by outcompeting them) and will produce an incredibly rich compost for your garden. Proper hot composting has the advantage of killing weed seeds, plant pathogens etc and you don't have the hassle of separating the worms from the compost. It too can result in highly valuable soil amendment (although somewhat different in nature than vermicompost).

These two processes do compliment each other nicely, so doing both is certainly not out of the question. Perhaps you can start with a large hot composting heap to ensure that pathogens and weed seeds are killed, but then start feeding the material to your worm composting system after a short period to help stabilize it further and add some of the extra benefits that researchers have found in vermicompost.

**Editor comment – Compost is best left to mature for a month after it has cooled down before adding to the garden. During this month the worms will move into the compost..**

# FNQ Community Exchange – LETS: Local Energy Trading System

## October Calendar

MOUNT MOLLOY – Saturday 6th October – 8am-12pm - Market in Mount Molloy. Please supply a trade sheet and everything priced if you'd like to leave your items to be sold by others at the LETS stall and browse the markets. Phone Lyn 4094 1431 or email [Ying\\_yingsta75@gmail.com](mailto:Ying_yingsta75@gmail.com) for further information. There are quite a variety of people who trade in Bartles at this market now – look for the signs!

ATHERTON - \*Not a LETS event\* Boomerang Bags – Saturday 6th October - 9am-1pm is the next sewing bee at Love Lee Wholefoods, 70 Main Street Atherton.

ATHERTON - Sunday 14th October - 11am-1pm - Irene's Edible Garden Locavore Lunch and Garden Tour. 17 Evans Street. 15 Bartles or \$15 per person (free for under 15s) Friends and children welcome. Event Host: Irene [wheelieeasy@gmail.com](mailto:wheelieeasy@gmail.com) or text 0439 914 876. Bookings Essential!

TULLY - Tuesday 16th October - from 5.30pm Trade & Tostadas. Big undercover carport area. 5.30pm for garden tour and plant-dig-up, trade at 6.30pm, shared Mexican-themed meal at 7.30pm. 117 Tully Gorge Rd [3rd drive on left after Syndicate Rd] only 2km from Tully. Bring along something to trade and Mexican food or drink or some fruit to share! Event Host: Michael 4068 3669 or text 0439 729 469 – RSVPs encouraged!

WALKAMIN - Saturday 20th October – 11am-2pm – Trade & Lunch at Gloria's. 6 Hibiscus Street (just up from the shops). BBQ lunch – bring something to share. Or just come along to trade! Tables, chairs and power available. Large undercover area. Kids corner for lots of crafty fun! Event Host: Gloria [lavender1960@gmail.com](mailto:lavender1960@gmail.com).

What to bring to Trade Events where not specified above: food/drinks for yourself or to share, money at some venues (though 100% Bartles is encouraged), friends, Trading Record Sheet and pen or smart phone to enter trades directly, any goods you wish to trade, table/rug to display them and a chair at some venues, promotional material of any services you are offering if applicable, \$20 if you don't yet have an FNQ CES account (one-off fee). Contact us if you are unsure about anything!  
October 15th Deadline for November Calendar Details to [fnqces@gmail.com](mailto:fnqces@gmail.com) to be included in Calendar, Website, Facebook and other Promotions. [fnqces@gmail.com](mailto:fnqces@gmail.com) - 4096 6972 - [www.fnqces.org](http://www.fnqces.org) - [www.communityexchange.net.au](http://www.communityexchange.net.au)

Phone Lyn on 40941431 for further information.



**Next events:**

MALANDA SMALL FARMS FIELD DAY, BDFNQ stall and some talks,  
Malanda Showground

**Saturday NOVEMBER 10th, 9am - 4pm**

**FNQ Seed Saver Groups**

For latest news on these groups, check their facebook page

Cairns Seed Savers

Kuranda sprouts

Johnston River Community Garden

Mareeba Seed Savers

Mount Molloy Seed savers

Ravenshoe Community Garden

# **Mareeba Seed Savers and Gardening Group**

## ***Meeting Notice***

Our meetings are friendly and informal. It is a time when we meet to share / exchange seeds and plant materials, to swap ideas with and gather knowledge from other gardeners

**Our next meeting will be held on**  
**SUNDAY 11th November 2018**

Come anytime from 10am to 4pm. We will pack, clean and register seeds, share lunch, then wander through the garden, followed by afternoon tea

~ VENUE ~

**Josef Egger and Hedwig Schwaiger**  
**613 Leadingham Creek Road, DIMBULAH**

*for further information contact Maria Gillies on 0421 210 136*

Please bring a chair and if staying for lunch, cutlery, mug and plate and lunch / afternoon tea to share. Also, any seeds or plant material you have for the give away table and a gold coin donation to cover tea and coffee supplies.

\*\* Also, remember your hat and sensible shoes for the garden walk \*\*

**Special guest speaker at 1pm ~**  
**Colin Hedges**

**Topic: Organic Backyard Bio-cycle Gardening**

**NOW THIS IS A GREAT WAY TO DEAL WITH WEEDS**



**2018 Australian Biological Farming Conference and Expo**  
**Gold Coast Campus, Southern Cross University**  
**9<sup>th</sup> to 12<sup>th</sup> November 2018**

**Biological Farming – Science Meets Nature**

Major Speakers:

Michael Phillips, Orchardist and author of Mycorrhizal Planet

Jeff Mayer from Rodale Institute USA – No Till and Transitioning to Organics

Prof Carlo Leifert from UK Organic Research, Development, Technology Transfer

[www.soilcare.org](http://www.soilcare.org)

# Malanda Small Farms Field Day-

## Saturday 10<sup>th</sup> November 2018

Farming, the country lifestyle and the great outdoors



### Welcome

Due to popular demand, the hugely popular Malanda Small Farms Field Day will be held again on **Saturday, 10th November 2018**, at Malanda Showgrounds from 8am to 4pm – ONLY \$2 donation at the gate.

Please fill in an entry form when you arrive for a chance to win a great prize.

The Malanda Small Farms field day is about everything country, tractors, motorcycles, irrigation, farm equipment, animals and much more!!

The Field Day appeal to everyone interested in small scale agriculture and livestock keeping, horticulture, and simply producing food in their back-yard. As more consumers develop a craving for local fresh food, a batch of new small farms is finding innovative ways to meet the demand.

This rural renaissance is producing more varieties of vegetables, raising goats, sheep and buffalo to produce new types of cheese, or finding creative methods of getting it to market, and this is what Malanda Small Farms Field Day is all about.

Chairman of the organizing Committee, Glen Drury said “that the attendance of more than 4000 people at the event last year showed that there was a strong interest in small scale production systems that could be applied to smaller blocks and backyards.

People are very keen to learn more about producing home grown food and fibre for their own use as well as the possibilities for profitable sideline production. We like to keep it simple, so that everyone can enjoy catching up, and finding out about how to grow things better on their block.” he said.

Feedback received from more than 300 people who attended the 2016 event was overwhelmingly positive with the main theme being people wanting more of everything – more stalls, more information, more animals, more food ..... Feedback from the stallholders showed that inquiries and business generated greatly exceeded their expectations. Some had so many sales they had to send runners back to their stores to replenish their stock during the day.

The Committee is using the feedback for planning this year's event so people attending can expect even more variety and number of stalls, exhibitors, information sessions and food outlets. There will also be more places to sit for those who just want to catch up with other landholders to share information and make new connections.

The Committee is once again inviting organizations and businesses to sponsor the Malanda Small Farms Field Day. Three levels of sponsorship are available and sponsors will receive excellent promotional opportunities in return for their support.

For further information phone Field Day Coordinator: Kirsty Densmore, 0413 010 625

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## BIOCHAR IN CHINA

### Somewhere, a Tiger Yawns

*Simple, scalable, and shovel ready. China is moving negative emissions from laboratory to field trial to massive industrial scale.*



from [Albert Bates](#)"...I toured an experimental biorefinery near Nanjing where a prototype Beijing Sanju rotary kiln produced 1.5 megawatts of electricity while daily processing 30 or more tons of rice straw into biochar and wood vinegar. The biorefinery had discovered a 15% boost in fertilizer effect on rice and vegetable yield when it quenched the hot char with wood vinegar, comparable in many ways to quenching with urine. Another benefit of the new fertilizer was the water normally required in dry times of the year — with biochar no extra water was needed."

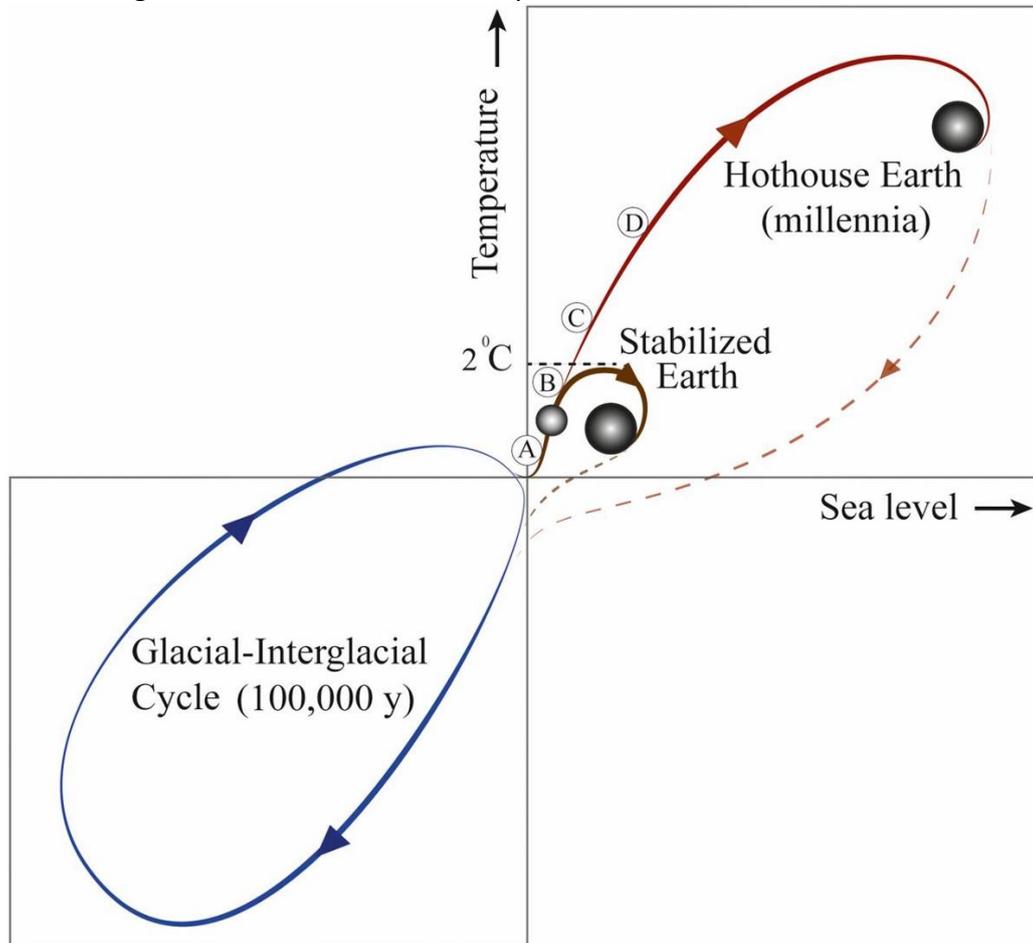
**It** is no secret that The Paris Agreement, humanity's best attempt to date to thwart our own extinction, is inadequate to the task, although it provided some mechanisms by which to raise ambitions as we collectively arrive at that realization.

As it is now, the Earth will likely be between 3.6 and 7 degrees Celsius warmer by the end of this century (continued expansion of fracking, which releases massive stores of methane to the atmosphere, could accelerate that to mid-century), and we would soon thereafter go extinct. A 7°C change would induce hyperthermia in humans and other mammals, as dissipation of metabolic heat becomes impossible.

## An adaptability limit to climate change due to heat stress

Despite the uncertainty in future climate-change impacts, it is often assumed that humans would be able to adapt to any...[www.pnas.org](http://www.pnas.org)

Tipping points for positive feedback mechanisms triggered by the Anthropocene anomaly assure that the already warming condition will persist for thousands of years, placing the entire experiment of life on this third planet from the Sun at risk. Earth's orbit is already at the innermost edge of a habitable range, and a small nudge like Hothouse Earth could push it inside the arc, to a climate resembling Venus.



Before this recent trip to China there was a path out of our climate catastrophe that had become clear to me, as it was to the scientists advising the Paris negotiators. We merely (wry smile) need to promptly curtail fossil emissions (something we are not doing — they are growing at a quickening pace, with renewable energy only adding to the rate of growth of energy use, *ie.*: consumerism); and we will need to deploy negative emissions technologies as quickly as humanly possible; akin to the Manhattan or Apollo programs, or Moore's Law. My own Global Ecovillage Network's nuanced approach to that solution involves adding ecovillages into the blend, as models of graceful de-consumerism, carrier media for the transition, and a more palatable carrot to the stick of draconian, government-imposed degrowth.

Ecovillages shield degrowth from cultural blowback with a force field of iconic fashion memes.

The nascent negawatts industry was given a shot in the arm by Paris. With the world in serious need of a fix, all the wanna-be fixers got going. This past May the Stockholm Resilience Center — at present the world's Manhattan Project for reversing climate change — hosted the [First International Conference on Negative CO2 Emissions](#) with 11 keynote speakers, 150 powerpoint presentations, 231 abstracts and 30 poster presentations. Presentations were provided on BECCS, DAC, Enhanced Mineralization, Carbon Farming, Marine Macroflora and Climate Ecoforestry. These are subjects I have been discussing in this space since at least 2009, with our first Carbon Farming course at The Farm, and before that, pre-blog, in articles and books since the early 1980s. Nonetheless, the Goteborg conference was [a watershed](#), and it [changed my mind](#) about the practicability of several of these schemes.

Still, I have been advocating, and continue to advocate, for a "least pain" strategy that could stand a better chance of overcoming the main obstacle: social inertia. My strategy, first laid out in a proposal to the MacArthur Foundation in their [100 Million and Change competition](#) two years ago and then more elegantly

in a forthcoming book from Chelsea Green with Kathleen Draper, is a combination of natural climate solutions, cool farms, ecovillages, and microenterprise hubs called "[cool labs](#)."



Cool Labs: Using permaculture methods to heal the earth, balance carbon, and make more real wealth [buff.ly/2p0ZnXK](http://buff.ly/2p0ZnXK) / @peaksurfer

10:30 PM - Apr 5, 2017

♡ 👤 See evoSus's other Tweets



In China I discovered we are not the only ones thinking of this. In many ways, the Chinese have taken it much farther, much faster. After teaching an ecology module for a month-long ecovillage design course provided by the Global Ecovillage Network at the UNESCO-China Dujiangyang Training Center, I flew to Nanjing and then traveled by train to Jianping, in Western Liaoning Province, far in the Northeastern part of China near the Korean border, to attend the International Biomass/Biochar Green Technology Conference for Rural Revitalization sponsored by Nanjing Agricultural University.

Jianping is known for being the archaeological epicenter for explorations of the origins of Chinese agriculture 7700 years ago. It is therefore very fitting that this should also be the site of China's new agricultural revolution. After walking through one of the huge museum domes erected to protect a 4500 BCE village site, we went to Xiaopingfang, sometimes called China's "first village." Xiaopingfang is now in the process of becoming an ecological village, called a "Dream Village" by President Xi Jinping, "according to the overall requirements of building a new socialist countryside; a new rural construction road of relying on resources to strengthen industry, relying on industry to feed agriculture." I reported two years ago about China's plan to construct 100 new ecovillages in 5 years. Now I was looking at one of those.



There are altogether seven natural villages in Xiaopingfang, thirteen villagers' groups, 3167 people, 881 households, covering an area of 28,000 mu (4613 acres). While the co-housing arrangement of the streets, and the provision of garden space to each home seemed to make the lives of the elderly farmers better, I had a hard time seeing how this fancy new village would support itself in this remote rural region, but then I got the second half of the tour.



The 2018 millet harvest, increased by biochar

We stopped at a vast expanse of grain fields where villagers were out harvesting millet, sorghum, maize and soybeans by hand. In 2007, the total output value of industry and agriculture of Xiaopingfang Village stood at 150 million yuan, 24 million yuan of taxes paid, 18 million yuan of collective economic income, and 7500 yuan of per capita net income of farmers. Today it is several times a multiple of that, thanks to biochar. Today a farmer can make 250 to 500 yuan more *per day* than before while paying little to nothing for fertilizer and getting a 15% or better yield from his farm.



Two years ago Kathleen Draper and I toured an experimental biorefinery near Nanjing where a prototype Beijing Sanju rotary kiln produced 1.5 megawatts of electricity while daily processing 30 or more tons of rice straw into biochar and wood vinegar. The biorefinery had discovered a 15% boost in fertilizer effect on rice and vegetable yield when it quenched the hot char with wood vinegar, comparable in many ways to quenching with urine. Another benefit of the new fertilizer was the water normally required in dry times of the year — with biochar no extra water was needed. Now, here in Jianping, one of the driest areas east of the Gobi, we saw that technique taken to scale with one of the 25 larger Beijing Sanju rotary kilns that had been plunked down around China to exploit Nanjing Agricultural University's breakthrough.



Beijing Sanju rotary kiln with IBI board members Kathleen Draper and Pan Genxing

In this dry region, the drought-proofing organic fertilizer business allowed farmers to plant 3000 mu of Nanguo pear, build a large-scale fresh storehouse and two water storage ponds. A grass-fed organic egg industry joined the organic green Nanguo pear industry. As we walked through earthen-walled shadehouses for tomatoes, cucumbers and peppers, we could see a dramatic difference between test plots without biochar and test plots with. The vegetables grow faster and bigger, do not require water in the dry season, have fewer pests and can be harvested sooner. While not certified organic (macronutrients are still supplemented and some pesticides used) it is marketed as “Grade A Green Food.”



Yuanzhao Temple

Taking advantage of Shuangwang Mountain’s rich historical legends and natural resource attractions, such as Wofoling, Shenxian Cave and Eighteen Arhats, a new eco-tourism draw, an asphalt road to the mountaintop Yuanzhao Temple has been built and the Tianxiu

Mountain Forest Park in Chaijiaying has been developed. China's rural revitalization investment for Jianping's eco-tourism is now 5 million yuan.

China has 200 more of these Cool Lab projects on its drawing boards, each shiny new \$2 million Beijing Sanju reactor converting 100,000 tons of formerly burned crop wastes into biofertilizer custom blends for the particular plants, soils and climate of the region — every one a 66 megaton/year carbon sink.

As I shifted my travel mode from tour bus to chauffeured limousine (occasionally in a cavalcade with black suited bodyguards in bulletproof SUVs) I was directed to the design studios of the Chinese Academy of Sciences and its Institute of Architecture Design and Research. Here, where all of China's major construction projects must apply for approval, the same rapid process is moving biochar into buildings, roads and bridges. Simple, scalable, and shovel ready. China is moving negative emissions from laboratory to field trial to massive industrial scale.

[The Biochar Solution | New Society Publishers](#)

[Conventional agriculture destroys our soils, pollutes our water and is a major contributor to climate change. What if... www.newsociety.com](#)

China's "ecological civilization" concept was first announced by Xi Jinping in 2007, in a report to the 17th National People's Congress. At the Third Plenary Session of the 18th Central Committee in 2013, China mandated Eco-Civilization as a national goal in its Constitution. In April 2015, China began performing natural resources audits when local officials leave their posts, so as to force officials pay attention to environmental protection while in office, or be held to account when they leave. A pilot scheme for rural revitalization such as in Jianping is being carried out in five different locations, in three stages: launch in 2015, expansion in 2016, then in 2017 full audits in the trial locations, with regular audits every year from 2018.



Biodegradable plastics in Jianping department store

Treatment of crop residues has been an increasing challenge for China, as it is for India, Indonesia and many other populous countries. China placed a ban on burning these

residues to try to alleviate the smog in Beijing and other cities. Introducing pyrolysis changed the issue from a liability to an asset. It gave China an indisputable lead in building soil carbon and developing “green agriculture.” Biochar from wastes has moved out of the laboratory and into commercial production in a mere 3 years. Soon it will be ubiquitous in Chinese agriculture, and then, as part of Xi Jinping’s New Silk Road, will spread to Africa, Latin America and other parts of the world. The same could happen for carbonized municipal wastes entombed in urban infrastructure. We are no longer talking about mere megatons of carbon dioxide removal. Now we are speaking of tens of gigatons. Even as Neocon economists levied \$200 billion in tariffs to keep Chinese goods out of US markets, we watched President Xi meeting with President Putin in Vladivostok and signing trade and technology exchange deals that could combine Russia’s science and manufacturing might with China’s to deploy negative emissions plants such as these everywhere in the world.  
Except, well, you know where.

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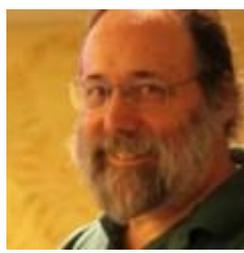
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Emergency Planetary Technician and Climate Science Wonk — using naturopathic remedies to recover the Holocene without geoengineering or ponzinomics.

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



## Permaculture Cairns

Membership Form 2018

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

- |   |                       |                       |                       |                       |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> Household membership \$30 | <input type="radio"/> | Renewing Member       | <input type="radio"/> |                       |
| Individual membership                           | \$20                  | <input type="radio"/> | New Member            | <input type="radio"/> |

Name(s) of all applicant(s) & DOB if under 18yrs):

.....  
.....  
.....

Postal Address: .....

..... Postcode: .....

Phone(s): .....

Email: .....

Signature: .....

Payment may be made at Meetings, at Cairns Penny or Online Direct Deposit to Permaculture Cairns A/c at Cairns Penny in Grafton Street. BSB704-966 A/c No. 100009440 please include your Surname as reference.

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

YOUR NAME:.....

Who was the Course Presenter:.....

When did you do the Course:.....

Where did you do the Course:.....

### Enquiries

President:	Jenny McGrath	<a href="mailto:info@permaculturecairns.org.au">info@permaculturecairns.org.au</a>
Secretary:	Craig Phillipson	<a href="mailto:info@permaculturecairns.org.au">info@permaculturecairns.org.au</a>
Treasurer:	Carol Laing	<a href="mailto:info@permaculturecairns.org.au">info@permaculturecairns.org.au</a>
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