

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

JULY NEWSLETTER

PERMACULTURE CAIRNS MEETING

Tuesday 18TH JULY 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 7 a practical explanation.

Guest Speakers:

Melissa Edwards talks about her new venture “*Cocreation Gardens*”

Carol Laing explains “*Chromatography*”: Chromos are a graphic indicator of what
is happening in the soil including minerals, manures, compost and microbes.

Jenny McGrath shows us “*Ceres*”: the home of permaculture in Melbourne

Plant of the Month, and if anyone has something to add please bring it up on the night before we
break for a cuppa.

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

All finished by 8.30pm.

Permaculture Principle 7:

Design from patterns to details

“Can’t see the forest for the trees”



By stepping back, we can observe patterns in nature and society. These can form the backbone of our designs, with the details filled in as we go.

Every spider’s web is unique to its situation, yet the general pattern of radial spokes and spiral rings is universal. The proverb “can’t see the forest for the trees” reminds us that the closer we get to something, the more we are distracted from the big picture.

-0-

Growing Food in the Tropics in JULY

I am having a rest this month, as the garden is full and I am harvesting and eating a variety of fresh veggies every day.

Keep seeding when there is a space in the garden, direct seed lettuce, bok choy, coriander, beans, cucumbers, cabbage, shallots, kale there is still time to grow these. Will put some potatoes in this week in pots as I have run out of space in the garden.

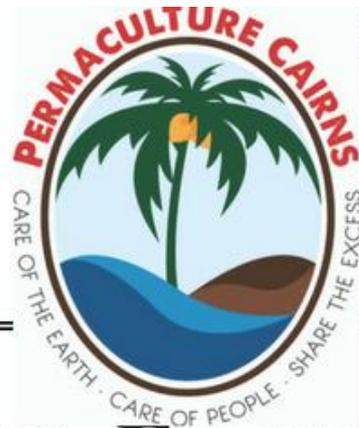
I have been planting a few flowers for the bees lately, zinnia, calandula, salvia, dianthus, any small flowering plants are good for bees and so are sunflower.

The birdwing butterflies are breeding, on a small vine near my back door. I have two chrysalis at present and still the butterflies come to lay their eggs. The large black grub attaches itself to a leaf, usually on a plant nearby and not on the birdwing vine and takes about a month to turn into a butterfly. But what a lovely butterfly.

Cheers Carol

Do you have anything to add please contact me

Editor, Carol Laing - newsletter@permaculture Cairns.org.au



TROPICAL FOOD FORESTS

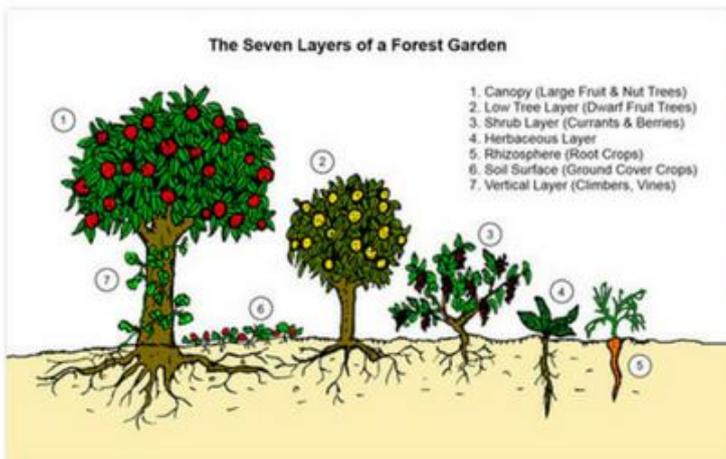
Sunday 23rd July 2017

9.30am-12:30-pm

\$20

Introduction to Food Forests - Cairns

Learn how to create your own food forest, the benefits of this system and the plants suitable for our climate. A food forest can be one m² or a 100 acres!



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

PERMACULTURE CAIRNS
BUILDING RESILIENT COMMUNITIES WORKSHOPS

Sponsored by



Grow Your Own Nutrient Dense Food

Sunday 30th July 9.30am to 12.30pm

Presenter: Carol Laing



Topics In this workshop, re-mineralising and balancing nutrients in your soil

Intro to identifying mineral deficiencies and how to correct them

Why increasing organic matter and microbes in your soil are important

Using plants to improve your soil,

Intro 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 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 biology and the many microbes in the soil.

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

PERMACULTURE DESIGN COURSE



10 - 24 SEPTEMBER 2017
KURANDA, AUSTRALIA

Gain the skills, knowledge and
confidence to design edible landscapes

TWO WEEK EDUCATIONAL RETREAT

Family Friendly Course with Nature Kids Program

Diverse team of local teachers + Tours of landscapes
demonstrating permaculture in action!

All meals by Arohanui Living Foods

Early bird ends July 30th
From \$1980

www.organicmotion.com.au
0422 068 995



ORGANIC
MOTION

Organic Motion presents: **TROPICAL PERMACULTURE DESIGN COURSE**

10 - 24 September 2017 (School Holidays) at Cairns Hinterland Steiner School

Special DISCOUNT CODE for current Permaculture Cairns Members: OrganicMotionPDC2017Tribe

2-week live-in retreat to explore Permaculture and gain a deep understanding of the ecological science, practical principles and design methods. The PDC covers the 72-hour intensive nationally recognized curriculum plus, many practical workshops by various teachers. Meet your like-minded community and take tours of inspiring landscape. You will gain take-home skills for energy efficiency and an in-depth understanding of thoughtful and efficient design processes that will enable you to re-design your life for low cost, abundant and edible transition into self and community sufficiency. Includes all meals—nutritious feasts by Arohanui Living Foods.

Whether you're interested in growing food in pots on your balcony, designing a kitchen garden, starting community garden, developing techniques to reduce waste and energy consumption or you have a larger professional project in mind, this course will improve your ability to understand and interact with your local environment and give you the inspiration, knowledge and confidence to create great permaculture designs.

*Family Friendly Course - Parents can learn while children attend the 'Nature Kids Program'

* A scholarship is on offer for low income earners

More info and various ticket types at <http://www.homegrowndiblegardens.com/store/p24/TropicalPDC2017>

Workshops and Events

FNQ COMMUNITY EXCHANGE

Relocalising Far North Queensland

FNQ Community Exchange aka LETS Local Energy Trading System

JULATTEN – Saturday 1st Mount Molloy Markets Our LETS folk are having a combined community stall. Pop in & say Hi and find out more about LETS Trading.

KOAH – Saturday 1st 9am – 1pm Monthly Marke 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 – 0422 068 995.

KEWARRA BEACH – Friday 7th 5.30pm – 7.30pm Woodfire Pizza & Trade Evening, Tables available to display your wares so bring along something to trade and an empty stomach to fill with Pizza. Contact Event Host Ilona - 0438 759 711 to get address and directions.

YUNGABURRA – Saturday 8th 6 – 8.30pm Trade & Soup Supper, that retro cafe Bring some Soup to share and something to trade. Hot drinks for 100% Bartles at the cafe – you'll need \$ for drinks from the fridge - communal self service of soups from the retro kitchen. Event Host: Melitta - 4095 2340.

ATHERTON – Saturday 15th 6pm – 8pm Dinner and Trade, Pancake Theme. Irene's House at 17 Evans Street. Bring along a plate to share and goods to trade. For further info and RSVP contact Event Host: Irene - 0439 914 876.

RAVENSHOE – Tuesday 11th 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.

TULLY – Tuesday 11th 6 – 8pm Mexican Theme Dinner. 117 Tully Gorge Road. Try some of Michael's Tostadas and LETS smash some Avo's! Event Host: Michael - 0439 729 469.

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

Mareeba:

Please note the Mareeba Drop off point is no longer at Coco's place in Kenneally Road .

It has moved to Cate & Seamus place (TBCE0914) in Hastie Street. Look for the LETS sign and beware of the very big, friendly dog.

Please contact Cate for more info: 04 0091 6297.

DEADLINE FOR AUGUST CALENDAR - JULY 15th

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



kuranda-sprouts seedsavers

at helen and jack's lovely koah garden

sunday 23rd of july - 10 til 4pm

68 kanervo road, Koah

approx 4 km west of koah servo(on the kennedy highway toward mareeba)at the end of the long straight,slow down and turn into kanervo road680 metres from the highway,it is the first property on the right(just follow our easily-recognised signs :)

phone helen 0402 803144 or jack 0418 986387

helen and jack will share their story
of their developing garden so far...

our meetings start from 10am and go thru til 4pm, *feel free to come whenever feels right for you thru the day- we sort our organically home-grown non-hybrid//non-gmo seeds into our local organic seedbank from 10am that often takes us up til lunch time - we have a lovely delicious nutritious share-lunch then we have a bit of seedsavers biz then a great talk from our hosts and then a walk around the garden..it's a great day with wonderful people :)

mareeba seedsavers

sunday 6th of august

10 til 4pm, at 'villa alba'

17 middlemiss street, Mareeba, off sutherland street

phone lindy and michael 40 92 1116

(guest speakers at one o'clock 'organic motion' from kuranda, talking about food forests) please bring a chair, and if staying for lunch, cutlery, mug and plate and lunch/afternoon tea to share, any seeds or planting material to share, hat and sensible shoes and a gold coin donation.

also remember your hat and sensible shoes for the garden walk.

ps: feel free to print this out and spread it around.

Biodynamics FNQ Event

Sunday 13th August 10am – 3.30

Biodynamic home gardening in the tropics

Bring chair and food to share for lunch.

Venue: Redlynch more info later



The banner features a logo on the left with a tree and a water drop, and text on the right listing event details. A central button says 'REGISTER NOW'.

International Permaculture Convergence
ipcindia2017.org
Hyderabad, Telangana, India

TOWARDS HEALTHY SOCIETIES

CONFERENCE
25 - 26 Nov 2017

CONVERGENCE
27 Nov - 2 Dec 2017

- 1st time in India
- 1200+ participants
- 70+ countries

Hosted by **Aranya**
AGRICULTURAL ALTERNATIVES
Permaculture India - Forest Farming

REGISTER NOW

For more info on the Convergence check out the website” -

ipcindia2017@permacultureindia.org

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

News from Home and around The World

A special message to all from !!!

Jairo Restrepo and Organic Agriculture now

Remember Jairo from the Mas Humus workshops in Mareeba during 2011-2012. Here what he is up to these days

Defending life! Jairo Restrepo, organic revolutionary

JuanFran Lopez / Ragmans Lane Farm

27th July 2015

Jairo Restrepo is a leading champion of organic farming in Brazil, writes JuanFran Lopez, and now his influence has spread across the world. His mission too has expanded to include campaigning for the rights of small scale farmers, and an even wider project of economic, technological and societal transformation to put people at the centre of political power.

Every single day humanity is related to soil. Our stomach does not exist without being tied to the soil - without soil there is no life, so why have one year that is for soil? Its madness."

A passionate educator and activist in sustainable agriculture and food sovereignty, Jairo Restrepo campaigns for a return of self determination, knowledge and autonomy to the farmer away from the power of agribusiness.

His background is in Latin America including Cuba, where his philosophy has been hugely influential in helping to build that country's agroecological movement:

"When we started promoting the proposal of organic agriculture in Cuba, in 10 years we were linked with 87,500 promoters of organic agriculture", he told me.

"From 1997 up to 2007 where a 10 year programme was concluded and an assessment was performed in Havana, we recognised that this movement grew due to the interest of many farmers, so we did have a huge impact.

"I participated in the founding of the movement in Cuba and made several consecutive volunteer trips from place to place throughout the country. One of my trips lasted 78 days, and we were in contact with 3,000 Cuban technicians - this practically became policy.

"Ideas are shared through farmer to farmer learning. But organic agriculture is not a small farmer unit. It is not even a broader political proposal; it is broader than that. Organic agriculture goes from being an instrument of technological transformation to an instrument for transforming society."

Society's enslavement by technology and capital must end

And that idea of organic farming as a means of societal change driven by clean, green, 'open-source' technologies is key to his mission, which is ultimately one of human liberation: *"Society does not have to be detached from technology. Technology is an expression of society and this is what we want."*

"We don't want to change technology; we want to transform society, thereby changing the technological proposal. Today the opposite occurs, the dominant type of technology proposes a society subjugated to industry, and we want the opposite."

And here I use one sentence quite a lot ... 'my dream is to construct a being, an ideal state of a being, so that I shall not be the ideal being of the State.' I want to fight for this ideal state of being so that I won't be the ideal of the State; that is not to be slavish."

Economic transformation too is another part of the equation, he explains: *"Industrial agriculture is no longer able to respond to the crisis of societal change. On the contrary it is causing the crisis, because agriculture and the food system wants to enslave society, concentrating economic revenues."*

"This hungry proposal of accumulating capital by all means causes a crisis, and farmers see that this is not a technological issue but an economic crisis that in turn is a political crisis. Capital is its own gravedigger in this respect."

Unlikely beginnings - as a chemist working on agrochemicals

As an advocate for agroecology and regenerative farming, Jairo combines his passionate advocacy of the rights of farmers with his promotion of practical technologies and preparations to increase soil fertility and transform cropping, offering tools and inspiration for farmers, smallholders and activists.

So it's surprising that he began his career as a chemist working on agrochemicals at the Federal University of Rio Grande de Sul in Brazil, where he was employed for many years. *"I was researching how to eradicate the smell of rotten eggs from a phosphoric poison called Malatol used in corn and wheat storage",* he recalls.

"However, in 1979 I happened to hear a talk given by a professor working in the poison residues lab on the Ministry of Agriculture. His name was Sebastián Pinheiro and in 45 minutes he was able to describe how agricultural poisons were used not only in the environment, but also how the industry was born out of the second world war, and that it was now bribing the entire structure of the Brazilian Dictatorship."

"This was a turning point for me. I became very self critical and aligned myself with Pinheiro. Working with him, I trained in chemical residue analysis, and then I started speaking out to defend and protect life."

The three big challenges facing the organic movement

So what obstacles are facing him in disseminating his message further? *"In South America there are three obstacles",* says Jairo. *"The first is the State. It has little societal commitment and no desire to change. Industry is where the power lies, and politicians are temporarily there as its representatives."*

"The second obstacle is the monolithic approach of Universities. The term University is derived from 'universities', the universal set of knowledge possible to dream up, construct, and propose a thesis.

"Today Universities don't propose theses, they propose 'research' but already know the results. This is adjusted research. Industry does not need universities for knowledge, as they conduct more research themselves, what they need is legitimacy. People have an idea that university is 'free, public and serves the people'. That's a lie, the university doesn't represent the citizenry.

"What's more, if universities were to close farmers wouldn't even notice, the social impact of universities is negligible as compared to farmers. People think that Universities are prestigious; this is still the image that is maintained, like a veil. The truth is that the University is a brothel, where knowledge and technology are prostituted."

The third obstacle, says Jairo, is rural outreach - the system for disseminating information to farmers, widely co-opted by commercial organisations to promote their private interests:

"It has been created on a lie. It assumes farmers as a technological consumer unit rather than as a cultural entity. The agricultural supply industry can sell products through operatives that need very little training - you don't need to be an agronomist, to be a mugger you don't need to go to college.

"Organic agriculture is about rural communication, where discussion and dialogue is held, where the farmer is recognized as having something to give, as they know the territory. The farmer provides the context and the background, and then others coming in can see the potential or possibilities. This is the basis for developing organic agriculture where both parties can grow together."

The roots of life are in the soil

One way that Jairo seeks to influence the world is in his role as consultant to the UN. UNESCO and the International Labour Organisation - not that he is too impressed with the UN's designation of 2015 as the 'Year of the Soil':

"They have a year for everything. Saying it's the year of the Soil is like saying its International Life Year! Every single day humanity is related to soil. Our stomach does not exist without being tied to the soil - without soil there is no life, so why have one year that is for soil? Its madness."

But still, there is the potential for good things to result - especially with the COP21 climate conference taking place in Paris this December: it's essential to remove carbon from the atmosphere, where it causes global warming, to the soil, where it retains moisture and nutrients, and provides the basis for productive, resilient farming:

"It's very simple. The more we can build life in the soil, the less carbon will be in the atmosphere. So for example the herbicide industry should pay for carbon emissions, not only for the embodied oil within the product itself, but for killing life.

"Fungicides greatly modify the climate, why? Because they are selective and modify the food networks connecting microbiology and decomposition. When decomposition of organic matter is paralysed and modified this releases more carbon. On the other hand the proposal of organic agriculture is to increase soil life and to trap carbon within productive systems."

Hope springs eternal

And despite the many setbacks suffered by across Latin America with the advance of industrial farming across enormous areas of Brazil and Argentina, Jairo remains optimistic, buoyed by campaign successes and a growing spirit of rebellion against corrupt politicians and the dominance of agribusiness.

"Many things in Latin America happened due to the crisis or terror and rising social tension", says Jairo. "So there is resistance and re-existence. When I speak of re-existence I speak of people who have always found a way without industrial agriculture. Some farmers have access to industrial technology, other have not.

"But the changes are huge. 75% of farmers in Latin America are now using organic fertilizer in one way or another and they produce 67% of food in Latin America, mostly in the small farmer sector."

An agronomist with a rebellious character, Jairo has developed a passionate belief in people power, in local rural culture, food sovereignty, and a powerful desire to transmit the indigenous knowledge and experience gathered from over 20 years work across all continents. And he's as clear as ever about the work he has to do:

"My mission now is to defend life. This is my purpose, my instinct, but also to protect the conditions that encourage perpetual and healthy life."



Growing food in the post-truth era

June 30, 2017 1.43pm AEST

Critics fear the merger of agricultural giants Bayer and Monsanto will drive an increase in use of pesticides, as well as genetically modified seeds. [AgriLife Today/flickr](#), [CC BY-NC-ND](#)

This article is part of an [ongoing series](#) from the [Post-Truth Initiative](#), a Strategic Research Excellence Initiative at the University of Sydney. The series examines today's post-truth problem in public discourse: the thriving economy of lies, bullshit and propaganda that threatens rational discourse and policy.

The project brings together scholars of media and communications, government and international relations, physics, philosophy, linguistics, and medicine, and is affiliated with the Sydney Social Sciences and Humanities Advanced Research Centre ([SSSHARC](#)), the [Sydney Environment Institute](#) and the [Sydney Democracy Network](#).

The global food system has been operating in post-truth mode for decades. Having constructed food scarcity as a justification for a [second Green Revolution](#), Big Agriculture now employs its unethical marketing tactics to selling farmers "climate-smart" agriculture in the form of soils, seeds and chemicals.

The cover of Monsanto's 2016 annual report, [A Limitless Perspective](#), presents a vista of galaxies worthy of a George Lucas production. The brightest star is an [A\\$88 billion merger with German chemical company Bayer](#), to be finalised this year.

Critics have described this as a "[marriage made in hell](#)". They fear the new mega-corporation will impose even more pesticides and genetically modified seeds on the world's farmers.

Monsanto's oft-stated aim is to "[consolidate the entire food chain](#)". That means a corporatised food regime that concentrates knowledge and power in the hands of a few.

This cedes control of food security to profit-making companies. The democratic governance of food and agriculture policy is under threat.

The myth of scarcity

Framing market opportunities as moral imperatives, the agribusiness narrative is to "[feed the world](#)". That's while making exorbitant profits at the expense of small-scale farmers and consumer health.

The rhetoric of scarcity is hollow; [excess production](#) is the problem. The food industry is a major contributor to overproduction, food insecurity and environmental degradation.

This includes the production of up to one-third of [global greenhouse gas emissions](#), when fertiliser production, food storage, and packaging are included.

Yet "Big Ag" is committed to raising output, intensification of farming, mass processing, mass marketing, homogeneity of product, monocultures, and chemical and pharmaceutical solutions.

The post-truth claim that the powerful US agribusiness lobby uses to justify these practices is that America's farmers [must double grain and meat production](#) to meet the needs of a global population of 9 billion by 2050.

In reality, the surplus, heavily subsidised production of the US grain-livestock complex makes little contribution to ending global hunger and malnutrition. Some [90% of US exports](#) go to countries where people can afford to buy food.

The corporate capture of climate change

Ironically, a new enemy within threatens Big Ag's market opportunities.

When US President Donald Trump met his election commitments by stepping out of the Paris Agreement on June 2, 2017, he stepped on some big toes. Following Trump's election, Monsanto and Du Pont had joined more than 360 US-based multinationals in signing a letter to Trump demanding action on climate change:

Implementing the Paris Agreement will enable and encourage businesses and investors to turn the billions of dollars in existing low-carbon investments into the trillions of dollars the world needs to bring clean energy and prosperity to all.

The altruism of these motives is questionable, given the profits to be made in the corporate capture of climate change. The low-carbon economy is big business.

[Archer Daniels Midland](#), which bills itself as "supermarket to the world", is investing in carbon capture and sequestration projects with the aim of reducing emissions and storing them underground.

Bayer is [developing](#) stress-tolerant oilseeds, maize and wheat varieties that will cope with extreme weather.

Global Swiss agro corp Syngenta's [Good Growth Plan](#) assures us the private sector can deliver on "the promise of sustainable and inclusive development" while mitigating the effects of climate change.

If you tell the same story five times, it's true ...

Rising global temperatures will bring new varieties of pests and disease, and a new twist on the time-worn post-truth spin that pesticides are the solution to feeding a fast-growing population.



The pesticide business is huge, despite the increasingly well-documented evidence of the harm it does. [jetsandzeppelins/flickr](#), [CC BY](#)

In a report in March this year, the UN Food and Agriculture Organisation [publicly dismissed](#) this claim. The report cites evidence that pesticides cause 200,000 deaths a year.

In the report, the UN special rapporteur for the right to food, Hilal Elvar, says global corporations manufacturing pesticides are guilty of "systematic denial of harms" and "aggressive, unethical marketing tactics".

She condemns lobbying practices that have "obstructed reforms and paralysed pesticide restrictions". Companies infiltrate federal regulatory agencies via "revolving doors" and "cultivate strategic public-private partnerships that call into question their culpability or help bolster the companies' credibility".

This credibility is propped up by networks of academics and regulators recruited as consultants. In accepting corporate funding and signing confidentiality agreements, scientists sacrifice autonomy and are co-opted into disinformation campaigns that support Big Ag agendas, at the cost of their ethics.

For example, when bee scientist James Cresswell presented findings that linked Syngenta pesticides to colony collapse, he was pressured "[to consider new data and a different approach](#)" in his industry-sponsored research. The "Faustian bargain" he had made cost him dearly.

Some are brave enough to call out post-truth claims. Angelika Hilbeck found toxins in genetically modified corn killed lacewing bugs as well as pests. Scientists like her are [labelled](#) "ideological researchers" and part of the "extremist organic movement".

World views collide

This frank dismissal of alternative production systems represents a collision between competing frames, stakes and forms of expertise in food and agriculture policy.

Big Ag relies on the myth that large-scale, conventional agriculture generates higher yields and is more efficient than small-scale, family farms. Yet the latter produce [more than three-quarters of the world's food](#).

Concerns about the lack of sustainability and resilience of industrial farming practices has led to critical questions about the way we produce food. Notably, in 2008 the Internal Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) recognised the need for changes in "[paradigms and values](#)" to include alternative, agro-ecological production systems.

A multi-year study involving 44 scientists from more than 60 countries, the IAASTD considers the political conditions that contribute to food insecurity. This includes damaging structural adjustment policies and unfair international trade agreements.

The findings highlight how poverty rates, levels of education, knowledge of nutrition, war and conflict marginalise those most vulnerable to hunger and malnutrition. Importantly, the report emphasises that critical communities, by raising questions of ownership and control of technologies, play a vital role in food systems governance.

These include the global peasant farmers' movement [La Via Campesina](#), which openly rejects climate-smart rhetoric as [promotion of an agribusiness agenda](#).

Promoting the concept of food sovereignty, La Via Campesina denies simplistic linkages between population growth, climate change, conflict, and resource scarcity. We are reminded that technological solutions are not neutral. The [2007 Nyeleni Declaration](#) of the Forum for Food Sovereignty asserts:

the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agricultural systems.

These farmers are the vanguard of resistance to Big Ag's efforts to further intensify agricultural production at the expense of people and environments. We have a responsibility to join them in challenging the logic of an industrial food system that is about growth at all costs.

Zika Virus or Glyphosate Exposure Causing Microcephaly

Posted on [June 16, 2016](#) by [Jeffrey Dach MD](#)



[Is It Zika Virus or Glyphosate Exposure ?](#)

by Jeffrey Dach MD

The news media has been reporting the Zika virus as the cause of microcephaly. The story originated in a Monsanto chemical industry [press release](#) dated Feb 17, 2016 which was then copied over the news media. The Zika virus was discovered in Uganda in 1947, and there have been no reports of microcephaly in Uganda. A US news article says, according to Associated Press journalists who visited the Zika Forest in Uganda on Feb 1, 2016, local officials have no concern about the Zika virus.(24)

New England Journal Reports

A recent [study](#) published in the New England Journal of Medicine reported Zika Virus surveillance in Colombia.(80-81) Of 50 babies reported with microcephaly, only four (8 %) had laboratory evidence of congenital Zika virus infection on RT-PCR. The other 46 cases (92 %) were due to other causes.

Of 1850 pregnant women reported infected with Zika virus, no babies were born with microcephaly. The authors state: (80-81)

“maternal infection with the Zika virus during the third trimester of pregnancy is not linked to structural abnormalities in the fetus.”

Since 92% of microcephaly babies are not caused by maternal Zika virus, perhaps we should be looking for other preventable causes.

Dr Yaneer Bar-Yam reviewed this same data from the Colombia surveillance [study](#) After reviewing this data, Dr Yaneer Bar-Yam concluded in his own report entitled: **“Is Zika the cause of Microcephaly?”** that there is no direct link between zika virus and microcephaly, and he proposed pesticide exposure (***pyriproxyfen***) in the drinking water as an alternative explanation(99):

“This (data) would seem to rule out Zika as a cause of microcephaly. This gives a consistent interpretation that there is no direct link between Zika and microcephaly except for random co-occurrence.”....“An alternative cause of microcephaly in Brazil could be the pesticide pyriproxyfen, which is cross-reactive with retinoic acid, which causes microcephaly, and is being used in drinking water.”(99)

Dr Tiago Baptista Questions Zika as Sole Cause of Microcephaly

Maternal viral infection with rubella or cytomegalovirus have been known to cause fetal malformation and fetal demise. There is no doubt that viral illness during pregnancy is best avoided.(47-55) However, Dr Tiago Baptista in a 2016 BMJ [article](#) questions *“whether the surge in reported cases of microcephaly is entirely due to Zika virus infection”*(55) He says:

“The risk of microcephaly after maternal infection is estimated at roughly one in 100 women... This is a relatively low risk compared with other causal infections such as cytomegalovirus.”(55)

A Distraction From the Real Cause- Exposure to Glyphosate Causes Microcephaly and other Congenital Anomalies

I suggest that the Zika virus is merely a distraction away from the real cause, agrichemical exposure from Monsanto's Round-Up Herbicide, glyphosate, (1-4) *Header image: Microcephaly (small head*

size) in newborn dated Jan. 30, 2016 in Bonito, Pernambuco state, Brazil. courtesy of AP
Photo/Felipe Dana (11)

Dr Alejandra Paganelli reported in 2010 that “Glyphosate-based herbicides produce teratogenic effects on vertebrates by impairing retinoic acid signaling.” (8)

Left image: baby born with microcephaly. News media blames the Zika Virus courtesy of BBC News.

Dr Paganelli concludes: “(congenital malformations) “produced by Glyphosate Based Herbicides are mainly a consequence of the increase of endogenous retinoid activity. ” (8)

Dr Sylvia Lopez



In 2012, Dr Silvia L. Lopez reviewed the effects of agricultural chemicals, glyphosate based herbicides, in human and animal models.(9) She says:

“It is very well known that acute or chronic increase of retinoic acid (RA) levels leads to teratogenic effects during human pregnancy and in experimental models. The characteristic features displayed by Retinoic Acid embryopathy in humans include brain abnormalities such as microcephaly, microphthalmia, and impairment of hindbrain development; abnormal external and middle ears (microtia or anotia), mandibular and midfacial underdevelopment, and cleft palate.” (9) Note: Retinoic Acid is Vitamin A Derivative.

Upper Left image: Agricultural Worker spraying field with glyphosate courtesy of Indiana Public Media.

Dr Benitez-Leite

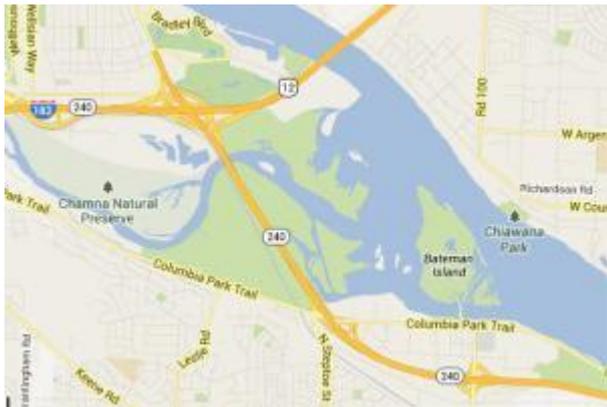


Dr Benitez-Leite reported 52 cases of malformations in babies born of women exposed to agricultural chemicals. The congenital malformations observed include anencephaly, microcephaly, facial defects, myelomeningocele, cleft palate, ear malformations, polydactily, syndactily all consistent with the well-known and expected syndrome caused by upregulation of the Retinoic Acid pathway.(10) Left image Monsanto’s Roundup herbicide contains glyphosate.

Upregulation of Retinoic Acid Pathway

A number of reports have linked arial spraying with the mosquito larvicide **pyriproxyfen** to birth defects such as microcephaly in the crop sprayed towns of Northeast Brazil.(106-108) Pyriproxyfen disrupts retinoic acid (vitamin A) signalling, a known **mechanism for microcephaly** (106-108) In 1995, Dr Kenneth Rothman reported in NEJM that **High Vitamin A Intake causes birth defects.** (109)

Increasing Anencephaly in Yakima Valley in Washington State



Another mechanism is glyphosate disruption of folate metabolism as discussed below in the Yakima Washington State case. (35-37)

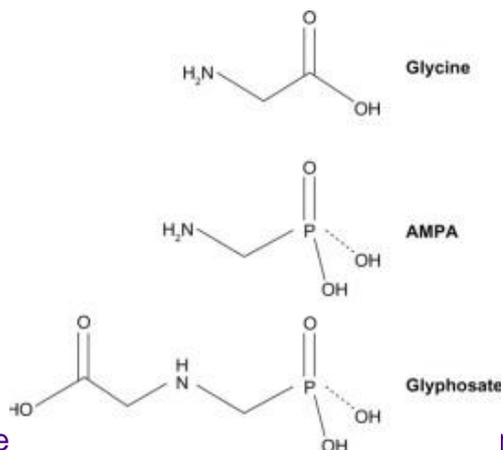
Over three years from 2010 to 2013, the Washington State Department of Health **reported** an unusual increase in anencephalic babies born in Yakima, Benton and Franklin counties, **four times higher** than the national average. (33-34)

Anencephaly, microcephaly and spina bifida are all related disorders of neural tube closure associated with maternal **folate deficiency**. **Maternal folate supplementation** is preventive. Maternal folate supplementation in Yakima was not at issue, as this was similar to the national average. Barbara Peterson, in Farm Wars, makes a compelling **case** for glyphosate exposure as the cause, since the Yakima river running through the affected counties had been heavily treated with glyphosate for weed control during that time period.(29) *Left image Yakima River Washington State.*

Glyphosate Disrupts Folate Metabolism

Glyphosate disruption of folate metabolism is discussed by Stephanie Seneff in her May 2016 **article** on Weston Price.(35) Glyphosate acts as an antibiotic, killing friendly bacteria by blocking the Shikimate pathway. These friendly bacteria are also involved in bacterial conversion of folic acid to methyl folate, its active form. Maternal methylfolate deficiency is associated with neural tube defects in the developing embryo.(85-87)

Glyphosate Disrupts Glycine Metabolism



Stephanie Se

neff's article then discusses how glyphosate disrupts glycine decarboxylase metabolism, known to cause neural tube defects in animal studies and humans.(36-37)

Glyphosate is the amino acid glycine with an added phosphate group, so glyphosate may readily displace glycine in various biochemical reactions. Glyphosate disrupts glycine decarboxylase by displacing glycine as a substrate. In addition, glyphosate replaces glycine at insertion sites in amino acid chains during protein synthesis, producing defective enzymes (35). Glyphosate is basically the amino acid, glycine with a phosphate group added on to it. see *chemical structure upper left image courtesy of ResearchGate.*

Glyphosate is a Patented Antimicrobial, Anti-Folate Drug

Glyphosate is actually patented as an anti-microbial drug. (83,84) Glyphosate serves as an anti-folate agent working in synergy with other anti-folate drugs.(58,61) Other anti-folate drugs in common use include the urinary tract antibiotic, Bactrim (trimethoprim/sulfamethoxazole) the rheumatology drug, methotrexate, and the anti-seizure drug Dilantin (phenytoin). Maternal exposure to anti-folate drugs such as methotrexate Bactrim and Dilantin increase risk of neural tube defects in the fetus up to **six-fold**. (85-87) Maternal folate supplementation has been shown to reduce incidence of fetal neural tube defects (NTD), and folic acid fortification in food supply was mandated in 1998. (85-87)(100-103)

Glyphosate Inhibits the Shikimate Pathway Glyphosate's known mode of action is inhibition of the shikimate pathway in plants, fungi, bacteria and parasites.(58) **Glyphosate blocks the pathway which produces Folate**, Ubiquinone (Co-Q10), Vitamin K, and the aromatic amino acids tryptophan, phenylalanine, and tyrosine.

Image: Moms Across America Billboard Requesting Freedom from GMOs and Toxins. Courtesy of



Organic Authority.

Government Regulators Deemed Glyphosate Safe for Humans

Government regulators deemed glyphosate safe for us humans because we lack the shikimate pathway. They forgot to consider that we humans depend on the shikimate pathway in plants and gut bacteria for our **folate (vitamin B9)**, to prevents neural tube defects. If your lunch salad comes from an agricultural field treated with glyphosate which blocks the plant's ability to synthesize folate, how much folate are you getting in your meal ? If you are ingesting glyphosate in your food, blocking your gut bacteria from synthesing folate, how soon will you be rendered folate deficient? Dr Bekaert says in 2008,

"Humans cannot synthesize folates (vitamin B9) and thus have to rely on plant food supplying these essential vitamins."(104)

Dr Craig Roberts suggests that Glyphosate may serve as anti-folate, anti-parasitic drug ,He says:(58)

*" it is likely that the shikimate pathway is important for supply of **folate** precursors in this parasite....inhibitors of EPSP synthase (such as glyphosate) can **act in synergy with conventional antifolates** and may be a useful addition to the agents used against apicomplexan parasites."*(58)

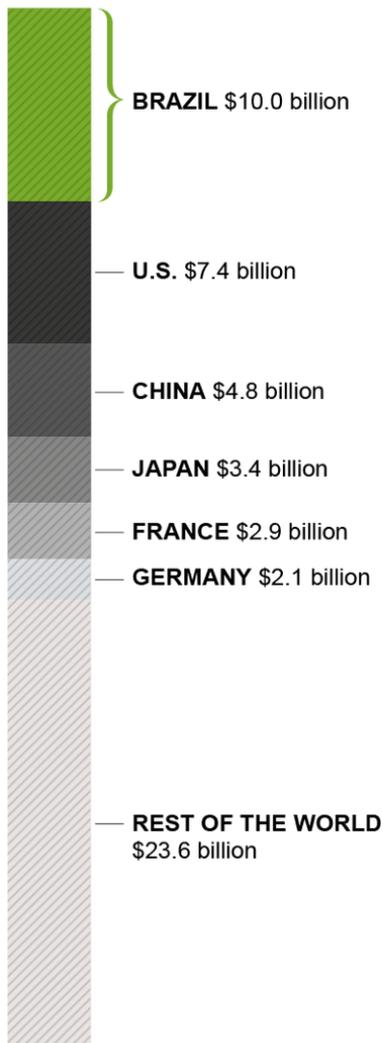
A quote from a University of Chicago Press Release 1998 (61) explains that Glyphosate blocks production of folate: "Effective new ways to inhibit parasites that cause malaria, toxoplasmosis and cryptosporidiosis" June 25, 1998.(61)

*"Dr. McLeod's team showed that glyphosate, ...**could block the production of folate, inhibiting parasite growth and survival.** Glyphosate proved effective against malaria strains that were resistant to an anti-malarial medicine, pyrimethamine, which interrupts folate processing at a different point. To confirm the finding, they demonstrated that these **folate-starved parasites could be rescued, in the test tube, by giving them folate.**"*(61)

Brazil Annual Pesticide Sales Surpasses the US

GROWTH MARKET

Sales of herbicides, insecticides and fungicides in 2013, by country



Left Image courtesy of Reuters. Brazil sales of herbicide (glyphosate) exceeds that of US.(81)

According to Paulo Prada in her 2015 [article](#), Brazil has a huge appetite for pesticides and herbicides, surpassing annual sales in the US.(81)

Poalo Prado explains that in Northeast Brazil, irrigation canals were built, transforming previously arid land into fertile farm land. These open air irrigation canals are heavily contaminated with herbicides and pesticides liberally applied to the crop fields. Life is primitive for the agricultural workers who live without piped in water for their dwellings. The local workers use the open air irrigation canals for their drinking water, thus are heavily exposed to herbicide and pesticide runoff.



Above image open air irrigation canals in Brazil are source of drinking water for agricultural workers. These waterways are heavily contaminated with pesticide and herbicide runoff sprayed on nearby agricultural fields. Courtesy of Reuters. *Fateful Harvest.*

House Passes 1.1 Billion Zika Virus Bill. Methyl-Folate is Cheaper.

Instead of spending 1.1 Billion dollars on a “controversial” **Zika Virus Bill**, I have a better idea for prevention of microcephaly and neural tube defects. (90) Suppose we instead allocate 100 million dollars to give out free **methyl-folate** tablets to all pregnant women exposed to glyphosate here in the US, and in Brazil. That would solve the problem at a fraction of the cost, saving a Billion Dollars.(90)

53 Countries Have Mandatory Flour Fortification with Folate

Folate fortification of flour for prevention of neural tube defects (anencephaly, microcephaly, spina bifida etc.) is mandated in 53 countries. Fortification of flour with folic acid was **mandated** in the US in 1998, the most successful public health measure in history, with reduction of neural tube defects by 36%.(100-103) In 2009, Dr Oakley declared this success story a “**modern miracle of epidemiology**”.(103)

Study Blood Folate Levels in North East Brazil

Why not allocate research funds to study blood folate levels in women in Northeast Brazil at high risk for having babies with neural tube defects? This was done here in the US before and after starting folate fortification in 1998, showing reduction incidence of neural tube defects by 36%.(101) Folate deficiency (blood folate levels less than 3 ng/ml) decreased from 21% to less than 1% of the population. (101)

In Australia, mandatory fortification of bread with folate and iodine was introduced in 2009, resulting in a 50-80 per cent reduction in neural tube defects in at-risk indigenous women and teenagers.(100-112)

Reducing Microcephaly in Brazil with Folate Fortification

Studies done in Brazil shows folate deficiency is severe, affecting 94% among the poor.(113) Folate fortification of flour in three south American countries (Brazil, Argentina, Chile) resulted in significant reduction in 52 different fetal anomalies including reduction in microcephaly and anencephaly.(114) Currently all South American countries except Venezuela have mandatory folate fortification legislation.(115) In populations using folate fortification there have been decreases in neural tube defects from 30-50%.(115)

How is Such an Error Possible ?



You might ask the obvious question, “how is such an error in thinking possible” that the government would waste a billion dollars on Zika instead of Folate Fortification? This is called CrimeStop or “**Protective Stupidity**”, aptly described in 1984 by George Orwell (91):

*“The mind should develop a **blind spot** whenever a dangerous thought presented itself.... **Crimestop**, they called it in Newspeak....the Party says the earth is flat’, ‘the party says that ice is heavier than water’—and trained himself in **not seeing or not understanding** the arguments that contradicted them.”*

*“Crimestop means the faculty of stopping short, as though by instinct, at the threshold of any dangerous thought. It includes the power of **not grasping analogies, of failing to perceive logical errors, of misunderstanding the simplest arguments...**...”Crimestop, in short, means protective stupidity.”(91) Above Left Image courtesy of [Jan Blomqvist – I Don’t Think About You](#)*

Using Fear and Smear Tactics to Distract Attention from Monsanto



This [article](#) in the Huffington Post Feb 16 is typical of the Monsanto tactics to distract attention away from Roundup glyphosate as the cause of the birth defects in agricultural workers in Brazil; [A Viral Story Links The Zika Crisis To Monsanto. Don’t Believe It.](#) by Anna Almendrala Senior Healthy Living Editor Huffington Post. Anna’s piece is pure Monsanto propaganda masquerading as journalism, don’t believe a word of it. If you trust anything Monsanto says, then I have a bridge to sell you.

Monsanto Fights Back with Theatrics and Deception

This September 2016 article entitled, “**The Right Chemistry: The farmongers are wrong about glyphosate**“ in the MONTREAL Gazette by Joe Schwarcz, an industry sponsored hit-man sent to discredit Steffanie Seneff’s publications exposing the harmful effects of Glyphosate. Instead of actually discussing any of the science in Dr Seneff’s publications. Joe Schwarcz relies on theatrics. During his video, the author eats a schnitzel sandwich and drinks tea, claiming similar safety profile with the Round-Up herbicide (glyphosate) on his desk. (116) Joe Schwarcz is a professor and **Director of the Department of Science and Society** at McGill University and receives heavy funding from “the Council for Biotechnology Information”, **an industry front group for Monsanto**. Here is information about funding sources for Dr Joseph SCHwarz, a quote from “**FoodBabe**“:

*“Dr. Joseph Schwarcz is the Director of McGill University’s “Office for Science & Society”, which has in the past received funding from the biotech (GMO) industry **Dow, Monsanto, and Dupont through the Council for Biotechnology Information** . Dr. Schwarcz is also on the Editorial Board for the magazine of the Chemical Institute of Canada, ACCN. Based on his advocacy, one could say **Dr. Schwarcz hasn’t met a chemical he doesn’t like.**“*

Monsanto has known for decades that Glyphosate causes birth defects, see this report: **Roundup and birth defects**. Is the public being kept in the dark ? by Michael Antoniou Earth Open Source June 2011

Search Google Scholar for articles with key words “**microcephaly pesticide**“ : you will see 2160 articles pop up.

Glyphosate is “Probably Carcinogenic to Humans”

A number of **studies** show glyphosate exposure doubles the incidence of Non-Hodgkins Lymphoma.(92) As reported in **Lancet Oncology** by Dr Kathryn Guyton, on March, 2015, 17 experts from 11 countries met in Lyon France and classified glyphosate as “probably carcinogenic to humans” (89)

Zika Distraction from Glyphosate – The Elephant in the Room



Certainly, maternal viral illness with Rubella, (CMV) cytomegalovirus and Zika are all risk factors for fetal demise, and fetal malformations, and are best avoided.(93-95) However, the Zika Virus is a distraction from the real cause of the problem, massive glyphosate exposure to pregnant agricultural workers in Brazil. Glyphosate is a patented anti-folate drug, Anti-folate drugs are known to cause microcephaly and neural tube defects in animals and humans. Above *Left image: Elephant in the Room is Glyphosate, courtesy of Stephanie Seneff PhD slide presentation.*

Professor Don Huber, GMO Food and Glyphosate

Increased incidence of birth defects in the population caused by exposure to the anti-folate agent, glyphosate is only the “tip of the iceberg”. The adverse health consequences of GMO food and glyphosate contamination of our food and water supply are much more extensive as outlined in a series of articles posted on the [Stephanie Seneff home page](#). Here is a quote from Professor Don M. Huber:(88) from his document [GMO Failed Promises Flawed Science Serious Health Safety Issue](#)

*” Future historians may well look back upon our time and write, not about how many pounds of pesticides we did or did not apply, but about **how willing we are to sacrifice our children and jeopardize future generations** for this massive experiment we call genetic engineering that is based on failed promises and flawed science, just to benefit the bottom line of a commercial enterprise.”* Dr. Don M. Huber

Link to this article: <http://wp.me/p3gFbV-3En>

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Australian farmer's weed-destroying invention draws world interest

Landline
By Prue Adams

Updated Mon at 10:55am Mon 19 Jun 2017, 10:55am

An Australian farmer's invention, which destroys weed seeds during harvest, has the potential to reduce the need for herbicides in grain farming and is gaining interest from around the world.

The Harrington Seed Destructor (HSD) is the brainchild of Western Australian farmer Ray Harrington.

The machine can be retro-fitted into modern grain harvesters and, with cage mill technology adapted from the mining industry, pulverises weed seeds to the point where they are no longer viable.

This means that when the chaff is spread back over the paddocks after harvest, viable weed seeds are not spread in the process.

Photo: [Ray Harrington was worried his farm would fail under pressure from weeds. \(Landline: Prue Adams\)](#)

Extensive research through the University of Western Australia has shown the machine kills 95 per cent of the weed seeds collected in the chaff.

According to the Grains Research and Development Corporation (GRDC), weeds cost Australian grain farmers around \$3.5 billion a year, and there is an increasing problem with weeds such as annual ryegrass that have built up a resistance to commonly used herbicides.

"Five to seven years ago, particularly in places like the Western Australian Wheatbelt, there was quite a strong feeling that herbicide resistance was going to cause people to have to walk off their farms," said GRDC managing director Steve Jefferies.

'MOST ELEGANT' INVENTION TARGETS ROOT OF THE PROBLEM

Mr Harrington grows barley, wheat and other grains on his property near Darkan, about 200 kilometres south of Perth.

An innovator by nature, more than a decade ago he realised if he did not do something about weed seeds at harvest, he "would fail like [his] Wheatbelt cousins" — so he looked at ways of crushing the weed seeds that were collected up in the chaff when the grain crops were harvested.

"I was going to catch it, cart it off, cook it or crush it," he said.

Mr Harrington originally developed a machine that would be towed behind a header, but he realised that would not suit most farmers, so with input from University of South Australia's engineering researchers and funds through the GRDC, a model was developed that could be integrated into harvesters.

The HSD system is based around the cage mill as the chaff processing unit. A pneumatic chaff delivery system, incorporating a cross auger and blower fan, collects and delivers the chaff that is pushed out the rear of the harvester and pushes that material, which is full of weed seeds, through the centre of the cage mill.

The weed seeds are smashed into a fine powder by rotating metal blades, and the inert powder is spread immediately back on the paddock.

Director of the Australian Herbicide Resistance Initiative (AHRI) Stephen Powles said the HSD was "the most elegant tool" in a system called harvest weed seed control — a process of managing weeds at harvest time, rather than relying on herbicides to knock weeds down during the growing season.

"I think we should all be proud of it," Professor Powles said of the HSD invention.

"[Ray Harrington] ... is a great Australian, he is a great innovator, a great farmer and an outstanding inventor."



Photo: The cage mill renders 95 per cent of weed seeds unviable. (Landline: Glyn Jones)

US, CANADA AND SOUTH AMERICA TESTING AUSTRALIAN-BUILT TECHNOLOGY

The HSD is being manufactured by the De Bruin Group, a family-owned company based in the South Australian regional town of Mount Gambier.

"We've refocused our entire business around producing the HSD," said Judson Wheatley, DeBruin Engineering's managing director.

Mr Wheatley said the company was manufacturing around 12 to 15 machines a month, and they retailed fully installed for \$160,000.

Most of the machines have been sold to Western Australian farmers, but several have also been sent to South Australia's Eyre Peninsula, and testing stands have been exported to the United States, Canada and South America.

"There's a huge amount of interest [in the HSD] in the US market, where they have a number of major weed issues — particularly with Palmer Amaranth," Mr Wheatley said.

Mr Harrington said he did not expect to become "very rich" from his invention, but that he would like to retire "in comfort" before handing over the farm to the next generation.

"It's been a labour of love for 14 years," Mr Harrington said.

"I am so pleased it has come to fruit, because it could have failed. I know if we adopt weed seed management across the globe, we are going to have a chance."



Photo: The Harrington Seed Destructor is bringing farmers one step closer to weed-free wheat. (Landline: Prue Adams)

-0-

Scientists call for stricter limits on antimicrobial chemicals in household products



Katherine Martinko (@feistyredhair)

Living / Health

June 21, 2017



Public Domain **Max Pixel**

Triclosan may have been banned in soap, but antimicrobials are still allowed in more than 2,000 other products, which is a big problem.

The label “antibacterial” appears on everything from personal care products to cutting boards to clothing. It appeals to many people’s sense of hygiene, wanting to believe that ‘bad’ bacteria will be inhibited, but the truth is that the antibacterial chemicals added to consumer products are harmful to health, disruptive to the human reproductive system, and persistent in the environment.

In September 2016, the Food and Drug Administration **issued a ban** on triclosan, triclocarban, and 16 other antimicrobial chemicals in hand soaps, but this didn’t go far enough for many scientists. Now, more than 200 researchers have joined together to call for tighter limits on the uses of antimicrobial chemicals, outlined in a **formal statement** published in the journal *Environmental Health Perspectives*.

The Florence Statement makes the following recommendations:

- 1. Avoid the use of triclosan, triclocarban, and other antimicrobial chemicals except where they provide an evidence-based health benefit (e.g., physician-prescribed toothpaste for treating gum disease) and there is adequate evidence demonstrating they are safe.*
- 2. Where antimicrobials are necessary, use safer alternatives that are not persistent and pose no risk to humans or ecosystems.*
- 3. Label all products containing triclosan, triclocarban, and other antimicrobials, even in cases where no health claims are made.*
- 4. Evaluate the safety of antimicrobials and their transformation products throughout the entire product life cycle, including manufacture, long-term use, disposal, and environmental release.*

You might be surprised where antimicrobial chemicals appear. The Environmental Working Group, a supporter of the statement, has a **detailed Guide to Triclosan** on its website that includes odd places such as credit cards, cell phones, tablecloths, household fabrics, playground equipment, socks, building materials, and many more. Its Skin Deep database identifies personal care products that contain triclosan.

While some manufacturers have introduced alternative chemicals in the wake of the FDA ban, there are concerns about the safety of these, too. From a **press release**:

“Since the FDA’s ban last year, many brands have switched to different additives, but there is evidence the replacement chemicals are no safer. The FDA is continuing to closely review the safety of antibacterial chemicals known as quats, including benzalkonium chloride, which are also used in some hand sanitizers.”

The best approach is to steer clear of anything with antimicrobial properties, unless absolutely necessary. Plain soap and water does just as good a job at killing bacteria, and is much safer, so it’s best to stick with that.

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

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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