



Sowing the seeds of community on National Permaculture Day

By Tash Levey



We celebrated National Permaculture Day with an all-day, family-friendly event at the Lockridge Community Garden on Sunday, 6 May.

The day was a huge success due to the wonderful collaboration of many passionate people. It is such a privilege to work alongside a group of people who come together and help each other to create a warm and supportive community.

The day began with MC for the day, Ed Wykman, banging a large rusty cowbell to capture the attention of a large and enthusiastic crowd. They very quickly learnt that when Ed donned the bell, something exciting was about to start.

Harry Wykman commenced the workshop series with an inspiring session on Introduction to Permaculture, after which there was a short break with much discussion and networking. Raffle

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e-News contributions welcome

PermacultureWest e-News is actively seeking articles. We welcome any information or events you would like to share with the community. If you would like to contribute please contact enews@permaculturewest.org.au or contact Jo on 0421 589 548 or Rachel on 0411 478 424.

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Autumn inspiration: from the co-editor

By Jo Thierfelder

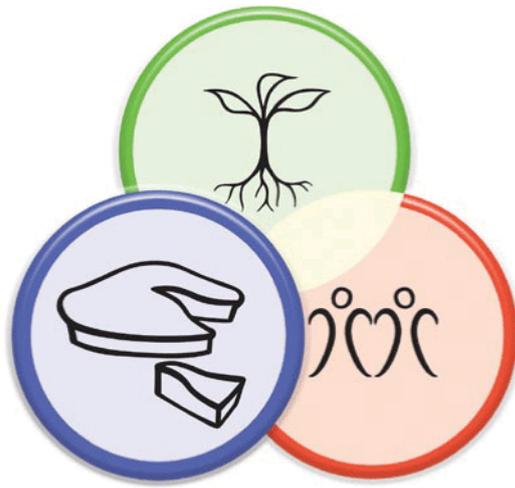
Crisp mornings, warm sunny days, cool nights - is there any better time of year? I know, I know, we need rain and the seasons seem to turn later each year, but I can't help but revel in the divine weather we are having at the moment. I'm taking every opportunity to soak up the sun and potter in my vegie patch.

A recent trip to the famed Jetto's Patch with the Hills Local Permaculture Group gave me plenty of inspiration and ideas for my own place. A few of the points I took away were:

- Plant more densely
- Plants can acclimatise to less than ideal conditions given enough time and care
- Be adventurous with what you plant and eat

Read more on page 18.

☞ Contributions are welcome; please send your articles to:
enews@permaculturewest.org.au



Fair Share

We are provided with times of abundance which encourages us to share with others.

The icon of the pie and a slice of it represents the taking of what we need and sharing what we don't whilst recognising that there are limits to how much we can give and how much we can take.

When a tree fruits, it usually produces much more than one person can eat. It makes sense to share what we can't use. It takes time to pick, eat, share and preserve the harvest and there are limits to how much fruit we can produce and use.

The growth in human consumption and the accelerating extinction of species make clear the impossibility of continuous growth. Sometimes we need to make hard decisions and consider what enough is.

We need to focus on what is appropriate for us to do, rather than what others should do. By finding the right balance in our own lives we provide positive examples for others, so that they can find their own balance.

Makuru

Noongar seasons

In Makuru, from June to July, Noongar people moved inland to hunt once the rains had replenished inland water resources. People collected *Tribonanthus* tubers and hunted Kuljak (Black Swans) which have begun to moult, making them unable to fly.

The cold fronts that have until now brushed the lower south west coast begin to cross further north, and gales and storms occur with increasing frequency. This is usually the wettest part of the year.

Cauliflower Hakea, Hakea Victoria, Prickly Moses, Scarlet Banksia, Native Wisteria, bacon and eggs plants and *Leucopogon Apiculatus* (heath) are all flowering during this time. July and August are the best months to see the Southern Right Whales at Point Ann.



Co-Convenors' Report

Sheena and I recently had the pleasure and inspiration of attending the Paul Taylor soil workshop. We promoted hard to try to get this one viable, so it was a relief when it finally happened, and many thanks to all those involved for helping to make this happen.

Organising these events can be hard work but if we don't bring the ideas west when there is no vested commercial interest in the skills being taught, then no one else will. So please continue to support PermacultureWest when we bring the best to WA.

It was well worth the wait. Paul is a wealth of knowledge and experience and knows how to present it in easy-to-understand chunks with a great blend of permaculture design and values, real world urgency and relevance for everyone. As Paul said, it's important to understand the difference between information, knowledge and wisdom. We could go through any amount of information; there is 8GB of information on this topic on our USB sticks!

"Knowledge is knowing that a tomato is a fruit; wisdom is knowing not to put one in a fruit salad" - Miles Kington.

Being an information sponge myself, I know it's easier than ever to acquire all sorts of information from books

and the Internet, which an intelligent person can interpret and turn into knowledge. However, and especially in Perth with its unique climate and location, that's usually not enough to guarantee a successful application of that knowledge.

Wisdom is the practical discrimination of that knowledge, which comes with experience and with common sense.

So Paul, thank you for your common sense and experience. In encouraging us to organise our resources and skills within our communities, he reminds us that we will not only nourish our connections to each other but will build our resilience for a healthier future - and that is wisdom!

On that note, PermacultureWest will be working on a way to bring the combined soil building knowledge of Paul Taylor and Eugenio Gras to a wider Perth audience via City farm and Community Gardens - we'll keep you posted.

Oh yes and if any of you have links to the weather fairies please let them know its meant to be winter soon not Spring!

Much love,

**Charles Otway and
Sheena Chrystall**

Co-Convenors PermacultureWest

"Knowledge is knowing that a tomato is a fruit; wisdom is knowing not to put one in a fruit salad" - Miles Kington.



...continued from page 1

tickets were snapped up fast and the auction was soon to commence.

Rain clouds threatened but luckily the sun poked through and the day was absolutely perfect. The second workshop focused on Perennial Food Gardens. Harry explained the concept and design, showing his audience the new section of the community garden, which had been recently cleared and a cover crop sown as an example of the beginning stages of a perennial food garden.

Next was the auction. Ed warmed up the crowd and enticed them with the fantastic donated items on offer. A garden consultation with our very own Harry Wykman was the first item on the bidding floor. How quickly the amounts went up! There was talk among some folks that the bidding would go higher if Harry took off his shirt. That was a debatable point, but luckily it didn't come to that. The winning bid was \$100 to Terry Penn.

The next item was a photographic studio portrait sitting donated by Kate and mum Laurie, at Pro Photo Booth to the value of \$200. This was snapped up for a bargain at \$50! And last but not least donated by locals Sally and Erica, was a home cooked three-course meal for two delivered to the lucky person's door.

National Permaculture Day was a hugely successful day for the Lockridge Community Garden, raising a total of about \$750 to go towards the running of the garden. Thank you to everyone involved.



This was also snapped up for \$50! Well done to all the bidders and to Ed for an entertaining live auction.

Lunch beckoned and there were homemade pretzels and scones straight from the pizza oven, slow cooked pea and ham soup (sooo delicious!), BBQ hamburgers and sausage sizzle and oh the cakes! An assortment of chocolate cake, apple tea cake and gluten free brownies and muffins. The crowd was certainly spoiled for choice.

Bonnie continued the workshops with her always popular topic: Composting and worm farms. The crowd was engrossed with Bonnie's informative presentation and engaging delivery. Fiona, one of the community garden's hidden talents who volunteers on a Wednesday morning, entertained the crowd with an amazing performance playing her fiddle. The crowd was in awe and the day was elevated to a new high.

The raffle was drawn next with several people walking away with some great prizes. The raffle was more popular than anticipated with close to \$300 raised. To those who missed out, there's always next year! The kids were kept amused by Jolene Otway doing a fantastic job with the face painting and kids' activities.





Harry explained the concept and design, showing participants the new section of the community garden, which had been recently cleared and a cover crop sown as an example of the beginning stages of a perennial food garden.

Next was the Solar Cooking demo with Clive and Nadia. The sun shone just enough to cook a yummy cake that was shared among the crowd. It was a close call though! Even with the dubious amount of sun for their talk, Clive and Nadia managed to give an excellent and inspirational workshop. Well done for your first one.

The day was drawing to a close yet more people were still turning up! The crowds through-out the day were large and continuous. I estimated about 100-130 people turned up. So great to see people engaged and interested enough to hang around and participate. The Permablitzed Garden Tour was a great success like last

year. Bonnie guided the large group to three local houses that have participated in the Gardens Permacult program. Those who came last year were thrilled to see the progression of the McKinnons house, which in last years tour was only newly blitzed.

So in summary, it was a hugely successful day for the Lockridge Community Garden, raising a total of about \$750 to go towards the running of the garden. Thank you to everyone involved - you know who you are! It wouldn't have been possible without the continued support of our volunteers and the PermacultureWest crew.

Viva la Permaculture!



Reflections on a Soil Master Class with Paul Taylor

By Charles Otway

The master class covered soil microbes, compost, aerobic Pro-biotic tea and anaerobic Bio-Fertiliser.

Paul Taylor is a wealth of wisdom on tried and tested basic soil and life-building techniques.

In one of his many interesting asides Paul explained how 60% of what we earn goes straight into tax and paying to go to work the next day. So, in essence, if we can grow communities and have local trading systems (LETS) we could live on 40% of the wages.

There is a reason why "trust nature" is Paul's business name. He believes in giving nature every opportunity and raw material and then letting her do her job. His compost-building, aerated tea and BioFertiliser recipes and techniques reflect this faith in nature.

He certainly got us all understanding that soil, compost, aerated tea (Pro-biotic), and BioFertiliser are living animals/

The more we observe about the intricacies of nature the more we know that we know nothing. However, we do know that nature selects, strives for balance, abundance and regeneration.



As he was creating relevance and the need for simple empowering natural systems, the message was slow down, apply some permaculture design principles to your life, start enjoying it, and get your vitality back. You are not on this earth to consume, work, pay tax, have kids, teach them to pay tax and die. Start living!

The more we observe about the intricacies of nature the more we know that we know nothing. However, we do know that nature selects, strives for balance, abundance and regeneration.

So stress less and ...

organisms, needing care and life's necessities.

Paul also spelled out the lunacy of artificial fertiliser and agricultural fertilising systems. Put your math hats on and get your head around this:

1 ha of land is 10,000m² of land.

If topsoil is 200mm deep (not always the case in WA) 1 ha has 2000m³ of top soil or 2 tonne of top soil.

Topsoil is 20% living organisms.

So 1 ha has 400 tonnes of living micro-organisms.

Micro-organisms are what feed plants.

They are 100% natural organic plant available nutrient.

Above that 1 ha is 70,000 tonnes of available nitrogen in the air.





Now, when you get a soil test and your agronomist says: "Apply 20kg of urea or superphosphate per hectare."

You say: "But Sir, I already have 400 tonnes?"

I really do feel sorry for our farmers. At every front they are being shafted; told a load of crap by those who should know better, paid a pittance for their produce by Agribusiness and left with a situation so unappealing their kids won't have a bar of what is essential, rewarding, gainful employment as esteemed stewards of nature and food producers.

Let's hope the necessity of "farming soil" returns, and food once again becomes a natural and accompanying surplus yield to growing soil.

To clarify, when we apply 20kg per hectare of superphosphate or urea we are poisoning some of that 400 tonnes of living plant food that is already there. Clearly 20kg does nothing compared to the 400 tonnes. All it does is kill the micro-organisms creating a flush of loose plant available nutrients, and rapid short term gain and plant growth. This is called land degradation, not farming.

Paul is a big believer in vital foods being one of the few effective methods we can get vital energy, cleansing and healing into our bodies. We can't avoid toxins; they are everywhere. They're in the air we breathe, the water we drink, the food we eat and the clothes we wear. The trick is not to worry about those we can't change

but to ensure we have enough vitality in our lives to keep our bodies healthy.

Nature abounds; she is very generous and abundant. Given a few of the right conditions, anyone can do well. Indeed Paul often ended up finishing a topic with: "If we take one step to nature, she takes 10 steps towards us." This is something I also firmly believe. Nature is always there waiting for any opportunity to be involved or even acknowledged, and if we stop killing everything and ignoring nature we will rapidly see the solutions are there and they are so simple.

Moving from our militaristic approach to controlling life for our own consumerist and money-making ends, and destroying anything out of place, to an appreciative natural husbandry approach would see huge changes in society. But they are exactly that: conscious changes in the way we think and act.

Paul explained that plants produce yield for two reasons: out of abundance or stress. Either they are growing well and are healthy, happy plants providing a harvest or they are under stress at the point of death madly trying to procreate / set seeds to keep the species alive.

We talked a lot about vitality in our food and clearly a happy, healthy plant has far more vitality than one that is putting its last gasp of life into procreating.

So enough of my musings on the workshop and on to the bits that you all want - the juicy details, techniques and

"If we take one step to nature, she takes 10 steps towards us."

recipes. I have summarised the recipes with a bit of technique, but if you intend to have a crack, it's worth getting a bit more information. We will be holding cheap workshops at community gardens and City Farm soon to spread the skills as widely as possible, so keep an ear out. Paul passed on lots of information, dilution, methods and hard-learned tips and tricks that can only be presented in a hands-on workshop.

I am looking forward to what Harry and Bonnie bring back from Eugino Gras in Pemberton. We will be making a pot of wisdom goodness to be stirred and spread among the community, so I am very excited about that.

This summary is really for you to print as a reference for material collection (which can be a lengthy process), please refer to the more detailed course notes to get the order, dilution, methods and hard-learned tips and tricks of how to do these processes.

The MOTHER of all composts

Driving Principle: "A diversity of materials ensures a diversity of microbes."

(This recipe is sized for a group; you can make smaller.)

- 2m³ of 'brown waste' which can include a mixture of straw, old weeds, sawdust, wood chip, paper and cardboard.
- 1m³ of 'green waste' which can include a mixture of hay, fresh cut grass, fresh cut weeds, etc.
- 1m³ of high nitrogen materials such as a mixture of manures, old wool, food scraps, etc

To the above we will add the following to build up minerals and trace elements and to make a best case compost we can to 'inoculate' the Aerobic Tea (Probiotic) Solution.

- 10kg of rock dust,
- 10kg of rock phosphate,
- 10L of molasses,
- 10L of kelp powder

Tarp to cover the compost usually about 5m x 5m.

Some tips and tricks and musings

- Use a welded wire fence to build / contain the compost pile. Welded mesh (not woven) so it does not stretch and 6m in length. The mesh size is 50mm x 75mm and ideally 1m in height. If available, get heavy duty thick wire.
- Create a base of coarse carbon to allow under-ventilation, then stack four brown, three green, two nitrogen, using a wheelbarrow to portion it. Having coarse brown material allows air in so avoid too much paper, grass clipping and other fine carbon that will mat down and form "paper mache".
- Layering via the four brown (carbon) three green (carbon and nitrogen) two nitrogen ratios with a wheelbarrow allows good control and with coarse material allows good oxygen flow. This is why these compost piles should only need to be turned every 10 days; about five times and it should be done. Over this duration, keep an eye on moisture levels; it must be kept moist to allow the pile to 'cook' properly.
- As the centre of the pile is the hottest part, ensure that when turning, the cooler outer edges of the pile get turned in to the centre to ensure the correct temperature for killing weed seeds and possible pathogens.
- Finished compost can be kept for 3-6 months in a dark, moist environment. The bugs hibernate and can be reenergized. However, as with everything the sooner you use it the better.
- It's worth the effort because compost is a 7-10 times more efficient use of the plant nutrients than if it was just manure being applied to the soil.

The aerated compost tea is a 24hr spa bath party for microbes.



Aerobic PROBIOTIC solution (compost tea)

- 200L drum, plus air pump, diffusers, compost bag or use a small bucket and scale volumes accordingly.
- 150L de-chlorinated (drinking quality water)
- 5L 'Mother' compost (add to bag)
- 1L of liquid fish hydrolysate (emulsion ok but hydrolysate better)
- 2L liquid kelp (must be liquid as used in 24hrs or add to bag)
- 5L worm farm juice or 1L liquid humate (alternatively 1L Humic crystals from NutraTech plus 200ml hydrated lime makes pure Humate)
- 100ml molasses
- 1kg oat or soya flour

Add the strong (high / low pH) microbe foods to the de-chlorinated water first to avoid killing your compost inoculants.

The aerated compost tea is a 24hr spa bath party for microbes. The complex array of microbes from the Mother pile compost are immersed into lots of food, get drunk on oxygen, and they breed like rabbits...or microbes. No-one likes a spa over 30°C or under 20°C and microbes are no different.

Point aerator tube / pipe holes down if you want to agitate compost that sits in

the bottom of the vessel. The bubbles should look like a spa bath, not fizz. Fizzing will kill microbes.

Try to achieve an oscillation / rotation of water within the brewer via the aeration process.

For probiotic teas to be effective there needs to be soil (not sand). Realistically you need 2% organic matter in the soil and 600ml of rain a year to get results.

Probiotic is a effective foliar spray as the microbes coat the leaves and protect them, hence apply in cooler times of the day to allow microbes time to create a protective skin. Similarly, in the soil, microbes create soil structure and aerate as they need air to survive.

Application methods need to have gentle pumps, Honda high vol / low pressure or a diaphragm pump. 65psi is maximum pressure before your microbes die. Paul uses an electric CP-25 Monopump 750W.

Nozzles for sprays need to be at least 1mm as microbes have biomass and will block them.

Repeat applications are recommended because as the seasons change and your soil structure changes, the environment the microbes have to live in changes. Thus at the start, even though all species are in your aerated tea (probiotic), only the strongest "pioneer" species might survive, once their work is done, the next

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As the seasons change the soil from hot and dry to cool and wet, different species of microbes will like it and colonise.

application the soil will be much more friendly. Similarly, as the seasons change the soil from hot and dry to cool and wet, different species of microbes will like it and colonise.

While advising to repeat the application often looks like an excuse to sell more 'product', in this case it's necessary to get the best results. In Paul's experience, applying a new batch every three months (seasonal) for three years will achieve soil regeneration to the way it was before we broke it.

Bio-fertiliser as a cold ferment

(Based on the work of COAS.com.mex)

This is an anaerobic process, simulating the stomach of a cow, hence the use of fresh manure or rumen. It MUST have a perfect air lock that will last 2-4 months without leaking. Take time to get it right. Once you think it's right, squeeze the drum and make sure your air lock bubbles.

- An airtight 200L drum with an air lock (must remain air tight for 2-4 months)
- 150L de-chlorinated (drinking quality water)
- 50L fresh cow manure
- 2L fresh organic full cream milk (if you can't get non-pasteurized organic, then add a litre of good yogurt to full cream milk)

- 2L molasses (not more else the resultant alcohol can kill microbes)
- ½ rumen (the green stuff in cows first intestine) or 50L of fresh cow manure
- 3kg wood and bone ash (50/50 if possible, bone dust optional just use more wood ash)
- 0.5kg fresh yeast or 25g dry yeast (bakers or brewers)
- 1L worm juice (optional)
- 4L kelp (dry powder used for animal supplement)
- 2kg fine rock dust (optional)
- 1kg rock phosphate (optional)

Tips

- Dechlorinate water.
- Add manure to drum first to avoid splashback.
- In a separate bucket, add ash to water then add kelp, rock dust, phosphate and make a slurry.
- Mix the manure and other stuff in the drum before doing the air lock and lid up. (Yes Paul, we have the wisdom from your mistake / learning opportunity.)
- Leave about 200mm free air pocket to the lid to avoid spills and air lock blockages.
- Place pipe in the top above bio-fertiliser but place the air lock bottle below the water level to avoid siphoning. Hang it on the side.
- If you open the bio-fertiliser later to inspect (avoid if possible), you can expel the air / oxygen by adding 0.5kg fresh yeast or 25g of dry and 0.5kg molasses.
- Don't put anything in a cow would not eat!
- The water must be drinking water quality, not too salty etc.

Aquaponics in permaculture

By Tony Carruthers of Life Aquatic Aquaponics

I did my Permaculture Design Certificate after I started my involvement with aquaponics and was fascinated to hear how the principles of permaculture applied to the systems I build.

Essentially, with aquaponics, we are building a miniature eco-system, with fish, bacteria, plants and beneficial insect life all playing their part in keeping the system running harmoniously.

For those that don't know, aquaponics is a means of growing organic fish and vegetables at home in a system that uses beneficial bacteria and recycles water so nothing is wasted. It is very similar to hydroponics in which a liquid nutrient solution is used to feed plants. However, in aquaponics, edible fish such as trout or barramundi are used to create the liquid fertiliser via their waste products. The plants, in turn, filter the fish water, converting it into lush greenery and removing waste that would be toxic to

the fish if allowed to build up. This is also how aquaponics differs from traditional aquaculture (fish farming) methods. In aquaculture, the build up of toxins is prevented by periodically changing a percentage of the fish water, which is incredibly wasteful.

The only external inputs are electricity, and fish food, which can be grown at home with a little effort. Black soldier fly, Duck weed, worms, and other greens can all be useful fodder for your fish. Solar panels can be connected, but are generally expensive to install.

When a system is established, it works as an energy store, holding nutrients for the plants to grow, instead of allowing them to leach into the soil. This in turn creates a system where nothing is wasted, which allows an even greater yield. Plants grown in aquaponics have all their needs provided for them. The bacteria convert ammonia from fish waste into usable

When a system is established, it works as an energy store, holding nutrients for the plants to grow, instead of allowing them to leach into the soil.



I will be hosting a workshop at FERN in Fremantle on 9 June, which will cover all of the theory needed to successfully grow your own fish and veg.

nitrates, much like they do in the soil.

Clever design and improvements are important. Since aquaponics is a fairly new field, modifications and new designs are emerging all the time. Observing while making small changes is a big part of making sure these new systems reach their potential. Fail-safe systems should be built into any aquaponics system, as poor design can lead to spectacular failure.

The bathtub system - simplicity itself

Here at Life Aquatic, the challenge of building a system out of recycled or found parts can be very rewarding. It can also offer some considerable savings over bought systems, which generally start at \$2,000.

There are some simple design rules which must be followed but there is a huge amount of room for creativity. Established ponds, bathtubs, IBCs (International Bulk Liquid containers), and blue plastic drums are all commonly used as a basis for an aquaponics system. If designed correctly, an aquaponics system should only need a brief weekly top-up to keep it running properly.

Aquaponics is very water efficient, using far less water than a soil-based garden, which makes it perfect for Perth's hot, dry climate. This year, for the first time, I had leafy greens and lettuce growing happily in 42°C heat, without the need for daily watering or extensive climate control.

I believe aquaponics will be an important part of our future food supply, as water supplies, and ocean fish stocks are depleted due to overuse and over fishing.

The most commonly asked questions about aquaponics are generally about how many fish you can grow, what they taste like and if all of the plants needs are being met. Stocking densities vary greatly depending on the kind of system being used.

Growing 50 fish per season from a 1,000L system is easily achievable with careful management. But really high stocking rates can lead to problems if you aren't

confident with water testing, and general maintenance.

Anyone venturing into aquaponics for the first time should aim for a low fish density for their first couple of seasons. Initially, the main thing you will be producing will be organic vegetables, with the fish becoming a nice bonus every six months or so. The fish, by the way, taste great! As good as any store bought or wild caught fish.

With the addition of organic nutrients such as rock dust, and seasol, all of your plants micro-nutrient needs are met and plants will thrive.

Resources

If you are interested in learning how to set-up aquaponics at your home, community centre, school, etc I will be hosting a workshop at FERN in Fremantle on 9 June, which will cover all of the theory needed to successfully grow your own fish and veg, as well as give you some practical hands-on experience on building a basic system from scratch.

☞ To book visit www.LifeAquatic.com.au or call me on 0404 444 023.

Facebook has an aquaponics Perth page, which is a great resource and a place to share information, experiences, triumphs and occasionally, failures (lessons for others).

☞ Check out Murray Hallam's site at www.PracticalAquaponics.net.au for a wealth of information, forums, and his IBC CHOP systems, which are a mainstay of the backyard aquaponics enthusiast.

☞ Also worth a look is Ecolicious www.ecolicious.com.au where Charlie is creating some amazing, beautiful aquaponic landscapes here in Australia.

Life Aquatic offers consultations, customised system builds and full, ready-to-go kit-sets for both aquaponics and wall gardens, as well as fish feed, pumps and other accessories.

If you are having trouble with an established system, I'm also happy to troubleshoot it for you.

☞ Visit www.LifeAquatic.com.au or call 0404 444 023.



Help fabricate and workshop the Yeomans 'Supaplow' in WA

By Charles Otway



Inspired by Ben Faloon and the Yeomans Superplow at Taranaki Farm, a few of us are looking to convert the Yeomans plow purchased from Ross Mars. We hope to convert it into a superplow and keep it available as a community resource as it's not something you need to do every year so a waste to buy one for yourself.

The recent Paul Taylor workshop has seen a few of us with common interests, BioVital Compost and Tea Skills and hopefully enough capability to make it happen.

The Yeoman's plow we have is a three-tine plow about 6ft wide, I believe a SB-6 (Single beam) as per <http://www.yeomansplow.com.au/yeomans-plows.htm>

Reading Yeoman's book (having not done it myself) it says 10-12 horsepower per foot, which would mean 60 horsepower for our plow, but that sounds way too low to me. Luckily, Harry Wykman did a Keyline course with Darren Dougherty while in Europe, so after a bit of practice we should be running beginner Keyline workshops.

The Yeomans plow is special to farmers, especially those looking to fix compacted dead paddocks and trees systems, as the deep and narrow cut of the fixed tine plough aerates and allows water to penetrate into the soil without turning over the soil and accelerating oxidation. The super plow combines this with a pasture / nitrogen fixing / pioneer species seeding systems and / or compost tea enrichment in the plow lines.

Progressively deeper parallel rips several months apart basically following the plant roots down, allow air, nutrients, soil biology and plant / pasture roots to go deeper and deeper, increasing the depth of topsoil each time. A similar effect could be achieved with deep wide rooted plants like Daikon Radish, Comfrey, Lupins etc but is a slow natural process. Hence, Yeomans is accelerated soil development modelled on nature.

PA Yeomans said: "1.6% increase in organic matter in topsoil on 12% of the earth's surface would reduce atmospheric CO₂ levels by 100ppm (i.e.

Progressively deeper parallel rips several months apart basically following the plant roots down, allow air, nutrients, soil biology and plant / pasture roots to go deeper and deeper, increasing the depth of topsoil each time.

to pre-20th century levels) and solve the global warming crisis."

Good topsoil is ~8% organic matter. As many have said, the problems are so immense and technical, and the answers are still ridiculously simple.

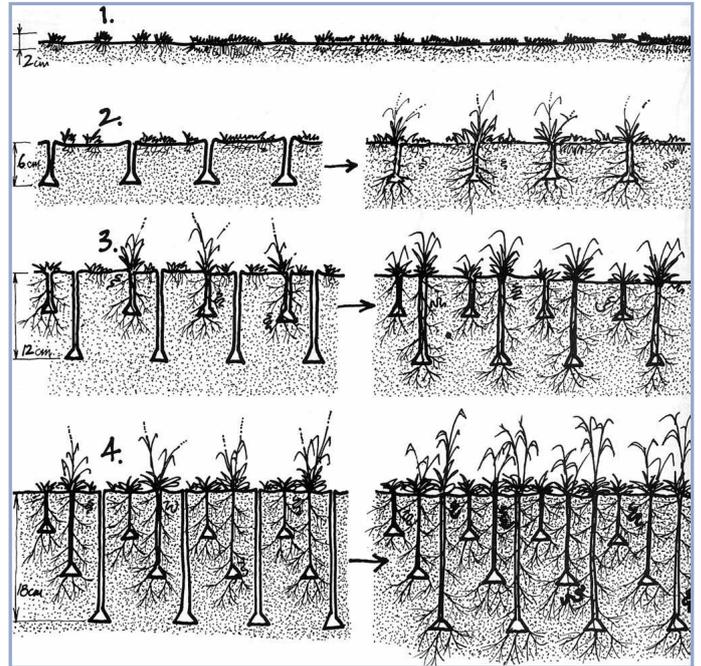
1. Typical run down pasture with shallow topsoil and low carbon content.
2. The first cut of the keyline plow allows air, water and nutrient into the compacted soil, this is rapidly chased by the existing or new seeded pasture
3. Successive cuts if needed will continue to deepen the root zones and therefore the topsoil of the pasture.

For Darren Doherty's work over east. In one year, with Keyline plowing with compost tea and then planting, pasture goes from no topsoil to 300mm or 2% to 8% organic matter.

The first step will be for Harry and I to visit Robyn Longley's place in Stoneville, and see if it's suitable to run some workshops while we keyline the place. We are hoping to find a cheap fire fighting or chemical spray tank such as

the one Ben used below. If you know of one we can buy / trade please let us know.

Then we'll work on fabricating the stand based on the excellent instructions in



the articles on the PRI website written by Ben.

☞ For more details <http://permaculture.org.au/2009/09/16/keyline-plowing-with-compost-tea-application/>

One of the challenges for us is to figure out a way to make this usable and helpful on the local and common crappy swan coastal sandy soils.



<http://permaculture.org.au/2009/11/29/keyline-plowing-with-compost-tea-application-2/>

While it's clear how the benefits will occur on compact clay and other not so gutless soils, one of the challenges for us is to figure out a way to make this usable and helpful on the local and common crappy swan coastal sandy soils. I think given the 'soil' is already generally aerated (coarse sand) the issue is not so much loosening but getting in a useful package of nutrients and seed and doing this at a time when the limited rainfall triggers a huge biomass gain of plants and roots.

Thinking about it, a perennial pioneer or nitrogen fixing plant would be ideal so something like alfalfa / lucerne or cassia / wattle should do the trick combined with some vigorous and beneficial annuals. When first thinking about using the Yeoman's Supaplow on deep sand I considered using a clay slurry system, mixed with compost tea, bio-fertiliser, but now I think I realise that claying the soil is not a broadscale viable solution. While I highly recommend everyone gets lots of clay into their urban high yield garden plots there is only so much bentonite and other clays that can be mined around WA, amending all the sandy areas is just not possible.

Paul Taylor said for probiotic teas to be effective there needs to be soil (not sand). Realistically, you need 2% organic matter in the soil and 600ml of rain a year to get results. So there is another challenge as a lot of our soils are worse than that!



Doing a Permaculture Design Course, one is taught that in high rainfall areas and often high-leaching environments, the biomass or fertility of the soil must be present in the plants. While we do not have high rainfall, we do exhibit similar mechanisms, so it is essential to establish and maintain soil cover on our very delicate soils. While improvement is certainly possible we must avoid cultivation and oxidization of the precious little carbon we have in the soil.

Anyway please get in touch if you feel this would be of interest to you or you have some skills that we might be able to put to a worthwhile project.

☎ Please contact me on charles@permaculturewest.org.au or 0466 633 275 as we would love to share this journey.

A perennial pioneer or nitrogen fixing plant would be ideal so something like alfalfa / lucerne or cassia / wattle should do the trick combined with some vigorous and beneficial annuals.



The challenge of community

By Claire Coleman

New strata laws had recently enabled land to be subdivided in a way that retained legal title to a lot with the remainder in common property.

As you travel down the permaculture path, it becomes increasingly apparent that ultimately we have to engage in a more co-operative and communal lifestyle and / or livelihood. Becoming a truly sustainable entity takes more than a family unit; there is food to grow, cook and store, waste to deal with, stock to tend to and a general nurturing of the land. It's tribal. It's re-inventing the wheel. Our culture has become one of the "rugged individual" that denies our interdependence and encourages us to hide our fears and weaknesses – we strive to appear in control.

During the late 1990s, when the forest blockades were at their noisiest, Living Waters in Denmark, WA, was a transient community of ferals, activists, city refugees, wwoofers and students. The Environment Centre would say: "...go see Dave Coleman" to people looking for a place to stay in return for work in kind. Sixty acres is a lot of land to manage for a single man and help was welcome. Those who stayed were educated in how

it is possible to live on the land without destroying it. Living Waters Permaculture Foundation ran many Permaculture courses and herb growing workshops, and established water harvesting and plant systems dealing with wastewater on site. Chooks and pigs were used to clear kikuyu and Watsonia. Pigs are no longer with us, but our wwoofer book bears testament to the large part they played in our lives during those years.

By the turn of the century, Dave started to talk about a "legitimate" community and creating an eco-village. There were plenty of young families looking for a life that is affordable for them and the planet. New strata laws had recently enabled land to be subdivided in a way that retained legal title to a lot with the remainder in common property with responsibility for its maintenance shared between the lot owners – just like an apartment block. A "body corporate" is created – like a mini council – taking responsibility for the roads, firebreaks, grey water and any other shared facilities.



All sounds great! Let's go for the dream, re-invent the wheel, show that things can be done differently.

First hurdle: Shire of Denmark charges us \$3,000 to look at an outline proposal. This has to be drawn up by a town planner. Our local friendly surveyor who knows the place and our vision like no-one else wasn't given a look-in. Council said "yes" in principal.

The next step was to get the plans through the State Planning Commission. Seven departments, several years, a couple of engineers, much to-ing and fro-ing and many \$\$\$ later, our proposal is accepted.

By now there were several people seriously interested about the development and wanting to put deposits down. Investors wanted to give Dave money as a loan or payment towards their lot and use it to build infrastructure. This was not legally possible without setting up a development company and getting into the tax liabilities for that. A trust fund had to be set up for the money to sit idly making money for the bank instead of being used for our needs. At least a branch of Bendigo had opened nearby.

From trying to remove ourselves from the system, it seems we're more in it than ever! And it's getting worse with banks making us jump through more hoops. The general financial meltdown is upon us, totally out of our control, like the weather, or the pigs!

The current task is working out the finer details of our management structure and it strikes me we are just creating another layer of government. The models of management we are looking at are starting to look like a two-tiered system such as the House of Lords and the House of Representatives.

So are we re-inventing the wheel or just becoming another wheel within it? Is it possible to escape the current financial paradigm that sees land ownership and money as the only way to operate as a species?



Lack of outside power and water are not viewed as an advantage; compost toilets still have a long way to go to become socially acceptable outside of National Parks. The guy who valued the land didn't even notice the black humus-rich soil that has taken years of composting to create from leached white sand, or the priceless forest that serves as our own "carbon credit"

But that is just the meta-structure under which we have to live. And once their needs are satisfied, we can live how we want to live; share what we want to share. As a group we have forged strong bonds and enjoyed the life of an extended family with shared meals, cars, chores, skills, etc and meeting many of our needs from the site with a lot less cost than your average suburban dream.

The process is an adventure and things have a way of twisting and turning in ways that cannot be predicted. There is no end to this journey. Our commitment to "the dream" is like a marriage. We can't run from it if the going gets tough. We take the rough with the smooth; laugh together, cry together. There is no mask of composure. It's for real, not always a bowl of cherries. But great joy is the reward that is unavoidable in genuine community.

Is it possible to escape the current financial paradigm that sees land ownership and money as the only way to operate as a species?

Jetto's Patch: jam-packed with inspiration and ideas

By Nathalie

The Hills Local Permaculture Group (HLPG) headed down the hill to Jetto's Patch for a morning of information and inspiration.

It was lovely to see many of us madly taking notes as Dario and Michele led us around their magnificent urban food forest. But don't worry, if you missed anything or want more information you can chat with the Franzinellis again via their Facebook page: Just search for 'Jetto's Patch'.

It's hard to say what the highlights of the day were as everyone seemed to come away with something valuable, whether it was names of new species they might grow, ideas for how to grow things, or information on how to eat the plants.

I know there will be a whole group of people returning home with new plans for their gardens this weekend. Our sincere thanks go to Dario and Michele for their hospitality and generosity, as always.

Hills Happenings 2012





Hills Local Permaculture Group update

By Elizabeth Nicholas

The plantings of *juncus pallidus* and *subsecundus* made by the March HPLPG gathering to assist in Nyaania Creek restoration seem mostly to have (just) survived so far which is wonderful to see. Thanks to those HPLPG members who kept up the watering during those very hot weeks during April.

This is a note for those who are interested in joining some of the Friends of Nyaania Creek activities over the next couple of months. The group is planning to meet regularly on Sunday mornings over winter, concentrating on groundcover to shade surfaces / reduce evaporation, control erosion, and provide safe habitat for local fauna.

☞ If you would like to join the planting team on Sunday mornings, or live locally and would like to weed, plant, or water at other times during the week, please email me on elizabeth@earthsanctuary.com.au or Kathy Wood on kwo03176@bigpond.net.au

A small pick or mattock is a great tool to bring if you have one. As is it still not raining reliably, containers of water to assist plants in establishing are very welcome.

Fair Harvest Permaculture Margaret River

We've had a pretty exciting month down here. Our new building was finished enough in which to run our first ever PDC. With 18 participants, nine teachers and some great wwoofers and volunteers, we filled up all available spaces for two jammed packed weeks of permaculture.

Running a 14-day, live-in, fully catered PDC was something that had me at times thinking I must be completely crazy and at other times just plain proud that we'd brought it all together. It was fantastic, but I wouldn't go as far as saying it was perfect as we came out of it full of ideas of how to make the next one even better. Visit our website for a full update and photos.

Upcoming courses

☞ Visit our website at www.fairharvest.com.au for information on all the following courses:

- Next PDC 21 April – 5 May 2013
- Sustainable Orchard Management with Peter Coppin - 21 July
- Build Your Own Aquaponics with Tony Carruthers - 29 July
- Dynamic Groups with Robin Clayfield - 28 August, 2 September
- Introduction to Permaculture - 14-16 September

☎ Please contact us on 9758 8319 or jodie@fairharvest.com.au for more information.

Straw Bale Building Workshops

We run regular straw bale building workshops to teach everyone the skills and techniques of professional straw bale building. Dave will have you building like an expert in no time!

The best way to learn is by doing, so our workshops are a mix of theory and practice to ensure you get the most from your learning experience. You will learn tips and tricks from an industry master as Dave teaches you everything you need to know about straw bale construction from the ground up.

Weekend workshops 2012 schedule

Duration: Saturday and Sunday
Cost: Single enrolment \$345 per participant (\$300 with early-bird

discount, offered for enrolments paid in full at least one week in advance.)

19 - 20 May - Bindoon

2 - 3 June - Bindoon

16 - 17 June - Bindoon

Maximum of 12 participants per workshop.

Host a workshop

If you are owner-building your own straw bale cottage, studio or dream home and would like to host a workshop to help with your build, Dave would like to hear from you.

☞ Enrol online now at www.strawtegic.com.au to avoid disappointment as our workshops book out very quickly.