

# NEW BIOSPHERE AGRICULTURE

## Fibonacci Planning & Planting



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## **Life with the ROADS:**

For the last six weeks we have had the pleasure of the Roads family staying with us on ‘Wilkesdale Learning Centre’ – 600 acres on Home Creek Loop Road (left on the second loop), Wilkesdale, north of Kingaroy via Wondai, in south east Queensland, Australia. To say this has been a blessing is an understatement.

Firstly there is six year old boy, Zen who shows me and tells me (Joy) all my denied emotions – we are great mates and a love that he is my brother. Like many young children Zen has unending energy, an endless appetite for food, is very creative and has his father’s love of the land. He even thinks he knows who his soul mate is. She is 8 years old and their favourite game seems to be playing ‘chasey’ and he said he will miss her when he goes to Armidale, in central northern New South Wales, shortly.

Then there is Zen’s mum Katrina. From the first minute of meeting her she struck me as the most open honest and vulnerable woman I have ever had the delight to call my friend. She astounds me with her vulnerability, her honest sharing, and her willingness to go the distance. And yes there are some times when she finds it difficult and is hard on herself; and she is honest about that too.

And then there is dad – Russ (Russell).

I will be forever grateful for what this humble man has taught me about God’s garden, what mankind has done to the land which has been most unloving, and how to care lovingly for the land until it is fully restored. He is always a model of truth, love and humility and a great role model for me on this path.

Russell has given generously of his time whilst here on the property to share his knowledge and love and all have benefited – even to the point of questioning whether it is loving to himself to give so much. Russ has spent hours personally with many of us giving individual advice and also run 6 days of workshops which I attended.

**Here is a summary of my learning’s to date.**

3 Dec 2010

I chose my camp site on the property because of the beauty in the bush around me, the proximity to the dam, and the space to grow a vegetable garden and an orchard.

When Russ first visited my site, I am pretty sure he thought it was a bit “Club Med” as most people do. It reflects many of my injuries about wanting company, entertaining, cooking – the flowers to keep me company and even the vegies are planted to help prevent me feeling my loneliness.

I confessed to pulling our some “weeds” around the immediate site – to which Russ replied “There is an injury there, Joy, as to why you feel it necessary to clean up God’s garden.” Then there is the fallen timber which I collected for firewood – well that was habitat for God’s creatures – “How do you feel about depriving them of their home?” And then there was the young “suckers” which I started to remove to make way for fruit trees – these young wattles are “pioneer plants” which bring nitrogen into the soil through the nodes on their shallow roots and provide much needed protection to young fruit trees.

I was appalled at my ignorance and arrogance to think that I would make any changes to the land without even seeking first to understand what was there and why.

Also in placing my caravan and annex amongst the trees did I even consider that I was encroaching on the mammals, birds, insects, reptiles, etc. Did I consider making the smallest footprint possible and inconveniencing nature in the least possible way – after all what was there first?

And isn't that what man has done on the planet – encroached on the land and taken away the very habitat which the animal kingdom requires for its survival?

This has been done en masse without a thought as to the ultimate effect on the planet. And just taken whatever he could, and never giving back.

### **God's Garden – Russell's first workshop.**

There is an area called the clearing where it is fairly clear of trees and the grass has been cut short. At the time of our visit, the weeds or wildflowers had started to return as the first sign of recovery. As we sat on the grass, it felt open and exposed. When the sun is strong the short grass provides little protection and the soil dries out quickly, becoming hard and hot, making it even more difficult for further recovery through natural seeding and germination.

In this environment where do the birds and critters go? There is no protection or relief from predators or weather. Perhaps we humans feel safer like this?

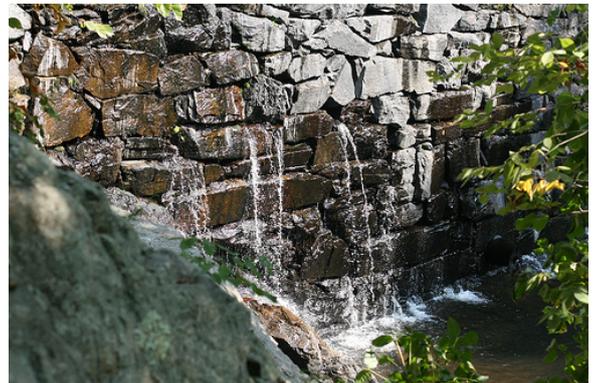
When the rain does come, the short grass and hard ground make it easy for the water to run off quickly. Maybe that is the way we like it?

The water runs off the hard ground hastening towards the creeks and damaging the banks of the creeks, because of the extra water flow, and deepening the creek bed. After time as the creek bed deepens, the creek stops running all year round, and the water table on the land also drops to the lower level of the creek, causing the grasses and trees to struggle to find ever deepening water tables and giving rise to salination, which further degrades the land.

This is the simple truth of what has happened to the whole of Australia, and most probably other parts of the world too.

By contrast we then sat in the long grass, like mammals, wrapped in the sweet smell of the various grasses. It was warm, protective, and the soil underneath was surprisingly moist – you could plant directly in that soil and not need to water. A stark contrast to the veggie patch I had just planted which required much mulching and watering. Mulching is a very poor substitute to nature's long grass – but much needed. Some felt uncomfortable in the long grass because of their fears of what else might be harbouring in the long cool grass out of the sight of predators and the heat of the midday sun. We have grown far apart from any idea of sharing habitat with creatures and seem to prefer the above the ground, totally secured box that provides our level of safety. The animal kingdom is probably happy about that anyway – the distance they stay away from us is a reflection of our soul condition.

If you want to plant a veggie patch, then it is necessary to clear enough area and if you are not prepared to remove the "weeds" then there is an injury in that too.



Inspection of the creeks on either side of the property show definite signs of erosion on the banks and deepening of the water course. It was explained how a “leaky dam” like beavers might build, but made of rocks, could help slow the flow of water, allow silting to fill the river beds and restore the normal flow of water – this might be achieved in one year of good rainfall.

Did you know it is illegal in Australia to stop the flow of water in a creek?

Our next stop on the property was to take a good look at the roads – unsealed, washed out, driven around in ever increasing distances to avoid bogging. Russell said that it is unloving to have roads which open like wounds every time it rains and look like scars when they dry out – making the property look unloved from the moment a person enters the front gate. No proper provision has been made for water flow, and proper road metal is needed for a reasonable surface. Also keeping vehicular access to a minimum on the property would be preferable.



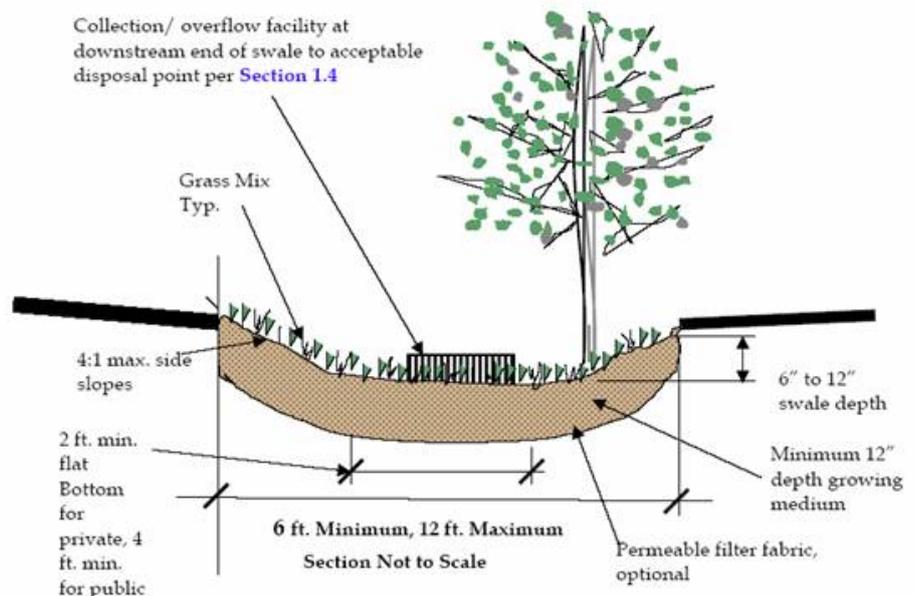
Next the west dam (which is where I - Joy - am camped). This dam was I think enlarged during the last year, and despite Russell’s suggestions to seed the surface immediately, the bare banks of the dam walls now bear the scars of water erosion and herald a short life for the back wall lasting more than a season or two unless corrective action is taken. It is not loving to create such a massive scar without a plan and action to regenerate – not just for the safety and retention of the dam walls but also to create an eco centre which serves to provide habitat for more of God’s creatures.

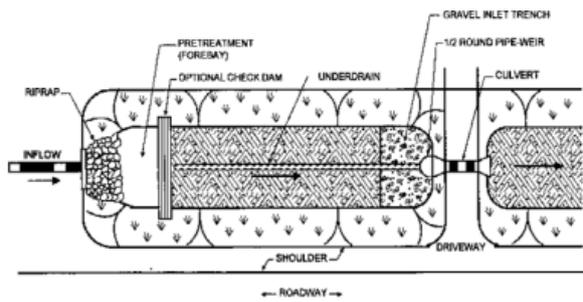
A variety of grasses and legumes provides quick coverage and protection for further planting, low flowering natives provide safe nesting environments for small birds, rushes / reeds and waterlilies all serve their purpose in creating habitat for even smaller creatures around the water’s edge. And there are water plants which grow under the water which would clean up the dam water.

Not to want to put in a dam (if it is useful both to us and the animals) is also an injury.

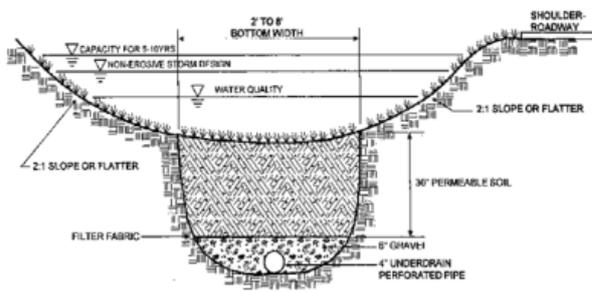
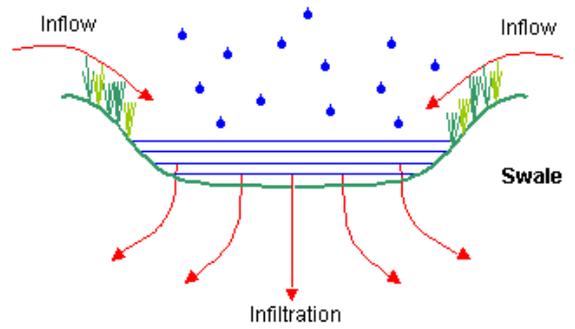
If we left this land to regenerate itself it could take hundreds of years to do so. If we know what is loving to do, why would we not enhance God’s garden and give it a helping hand. If the condition of the land is currently in the hells, that is a reflection of our soul condition; then why would we leave it that way, rather than helping it grow in love if we know what is loving to do.

Our last stop was the west orchard – a large area bulldozed last year and shaped into a traditional orchard with rows of trees. Some attempt was made to create swales, but was done so poorly that all the nutrients from the top soil is running all the way down the hill into the dam below and keeping the water very muddy and clay like.

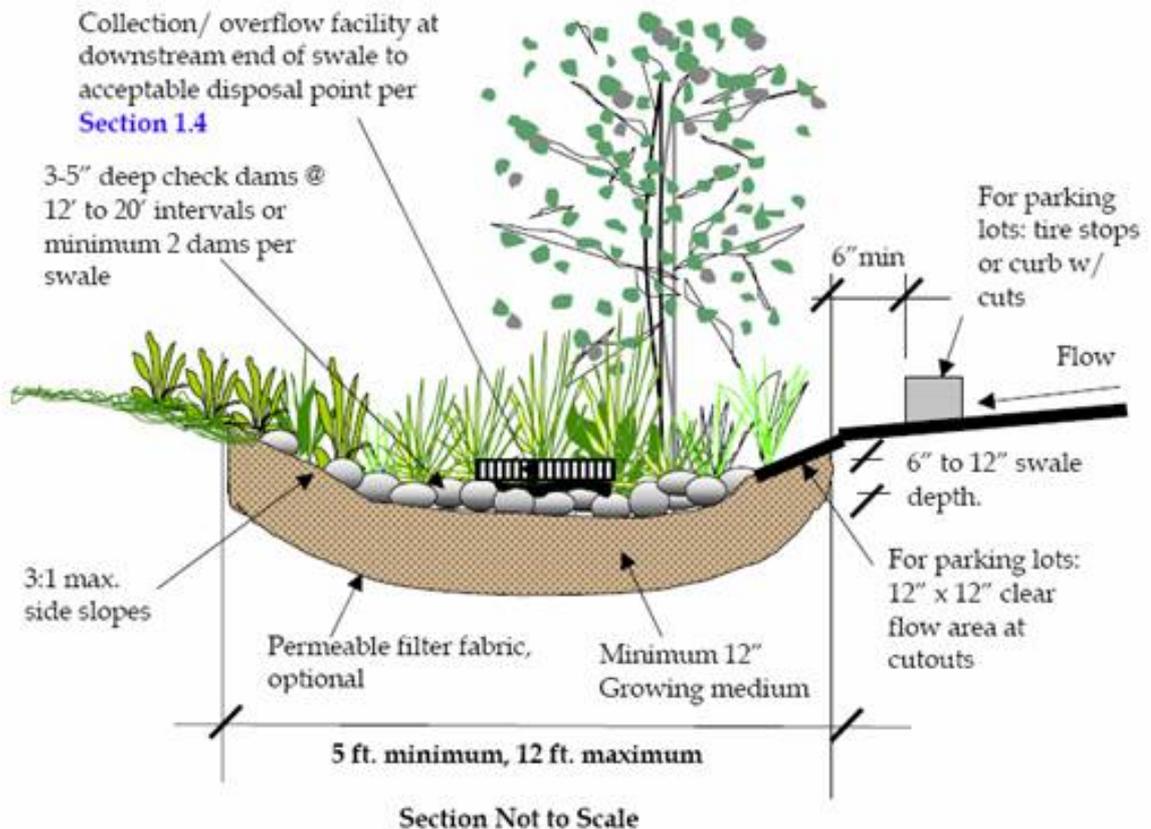
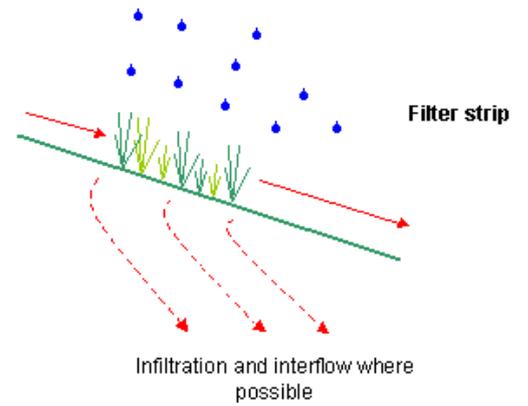




PLAN VIEW



SECTION



This whole area was completely devoid of any regrowth until about September this year (2010), which was un-seasonally wet. There is now some regrowth of various herbage, but it does look like a neglected cemetery – another example of the hells. Fortunately the fruit trees can still be dug up and replanted and this would only create a small setback compared with the long term benefits of creating a more loving, and self sustainable environment.



And why is the dam at the bottom of the hill, then the water pumped up to the top of the hill to a water tank to water the orchard?

This is a very short summary of a magical four hours of learning and appreciation.

### **Russell's workshop on Fibonacci planting.**

Fibonacci planting is based on a mathematical calculation which provides the maximum coverage for planting a given area. It is actually spirals which form in both directions and this is the basis for all of Gods creations. Take a good look at a sunflower or even a rose and note how the spiral patterns overlap each other.



This has been made easy for us in application by Yeshua (AJ) who has provided a spreadsheet which supplies the planting positions based on the spread of the plants and the gap between them. So whether you are planting lettuces or oak trees, the spread sheet does the calculations.

Firstly the spread of the tree – the figure required by the spreadsheet is actually the radius, or half the diameter. The diameter would be the total distance across the fully grown plant, and the radius would be half that. This figure would be chosen based on knowledge of the expected maximum growth span for that species. Non pruning is recommended, so that the tree is allowed to grow to the full extent of its natural ability; and with love who knows what that might be? Also consider the plant's maximum possible life time – this is most loving for the plant. Sunlight is required for the flowering of fruit trees, whilst fruit is ripened by air temperature.

The gap or space between the plants is a choice based on your requirement to maybe walk around the plants, allow for further growth, or to accommodate other obstacles already on the land, like fallen trees, rocks, etc. Take all this into consideration and then make an informed choice.

Having entered the radius and the gap into the spreadsheet, the spreadsheet will show a list of 100 trees and their planting coordinates.

Remember when we did graphs at school? Take a blank page and draw a horizontal line across the middle of the page – this is the x axis.

Draw a perpendicular line down the centre of the page and this is the y axis.

The cross over of the two lines in the middle of the page is the zero point.

The x axis to the right of the zero point has positive values, and to the left has negative values – say minus 10 to plus 10.

The y axis above the zero point has positive values and below the zero point has negative values say -10 to plus 10.

You might like to draw this diagram on a blank page as it will help with the following description.

If  $x = +10$  and  $y = +10$ , that point would be in the top right hand corner of the page. And this is called quadrant 1.

If  $x = +10$  and  $y = -10$ , that point would be in the bottom right hand corner of the page and that sector is called quadrant 2.

If  $x$  is  $-10$  and  $y$  is  $-10$ , that point will be in the bottom left hand corner of the page and is called quadrant 3.

If  $x = -10$  and  $y$  is  $+10$  that point will be in the top left hand corner of the page and that sector is called quadrant 4.

It is suggested that you mark the 4 quadrants as described.

It is a convention in mathematics that the x axis is always the horizontal.

It is also a convention that the x value is always specified, before the y value.

For example  $(-5, 5)$  means  $-5$  on the x axis and plus 5 on the y axis. This is called the coordinates and plotting the coordinates on the graph shows their position.

In this case it will show the position of the planting.

Now look at the spreadsheet for Golden Ratio Planting Guide.

The first row across shows the Plant size – remember that this is actually the radius, or half the diameter. And the plant gap, which is the gap you have chosen.

The second row is the headings for the columns of the table.

First is the tree number and they are numbered 1 to 100.

Second is the x coordinate, then the y coordinate,

Then which Quadrant for those coordinates.

And lastly the radius from the centre or zero point.

Then there is a small diagram defining the axes and the quadrant.

The way to apply this is to now go out on your chosen land and choose what you consider to be the centre point. Place a stake here.

Now set up an x axis with a string line from the centre point on either side of the centre point. Place stakes at both ends. The spreadsheet will give you the largest distance required in any direction – scan the last column for the highest value,

Next set up a y axis taking care to be at right angles to the x axis and again securing a string line to stakes at either end.

You can now see 4 quadrants – be clear about which is number 1, 2, 3, and 4.

Now for staking out the coordinates. Work in one quadrant at a time.

Let us say that is quadrant 3 where both the x and y values are negative.

See which value is the highest number and measure along that axis.

Now measure along the other axis and find the point that these two cross over.

As a check to see if you have the right spot, measure the radius from the centre point. Now mark this with a stake.

When all the stakes in all the quadrants are in place, planting can begin.

Generally planting will be a mixture of species as monoculture is not advisable. This will mean that some plants have larger growth spans than others. The table used might be an average tree span. So it still requires some planning to balance the tree sizes by planting smaller trees between larger trees – spreading the largest trees throughout the orchard.

It is also recommended to introduce flowering natives to an orchard to provide habitat and flowers for native birds and bees. This can also assist in balancing out the tree sizes.

Before planting can begin, place all trees in position and feel how it works – with balance, variety, size, etc. Also consider anything which is in the way, for example rocks or fallen trees. It is most loving to leave these in situ and move the planting point a metre or two in any direction – this might also require changes with tree sizes. If another tree is “in the way” consider what would be most loving – to leave that tree or remove it to make room for the new plant.

This whole process of getting the stakes into position is much easier with many helping hands.

Now we are ready to plant. Firstly stand looking up the slope where the water flow is coming from. Then clear the grass off the surface removing it to where you are standing so it forms a little dam wall at the back of the plant to stop the water going further down the hill. Now dig the required hole for your plant and ensure that the front of the hole is lower than the back. You want the water to sit in front of the plant, not behind it. Now dig two arms – one each side – these are to capture more run off and feed into the mini dam you are creating for this plant.

Remove the tree from its container and loosen the roots in the bottom slightly. Place a couple of handfuls of decomposed manure in the bottom of the hole and make a mound for the plant to sit on. The objective is to eliminate any air pockets – if roots contact air, they die – it is that simple. After placing the tree in position and filling the hole and making sure the base of the plant is below ground level, check that your mini dam is going to provide a watering hole in front of the plant.

Tread the ground around the plant to make it airtight and secure before adding another couple of handfuls of decomposed manure.

Watering is next – recommended 5 litres of water with 25mls of Seasol added.

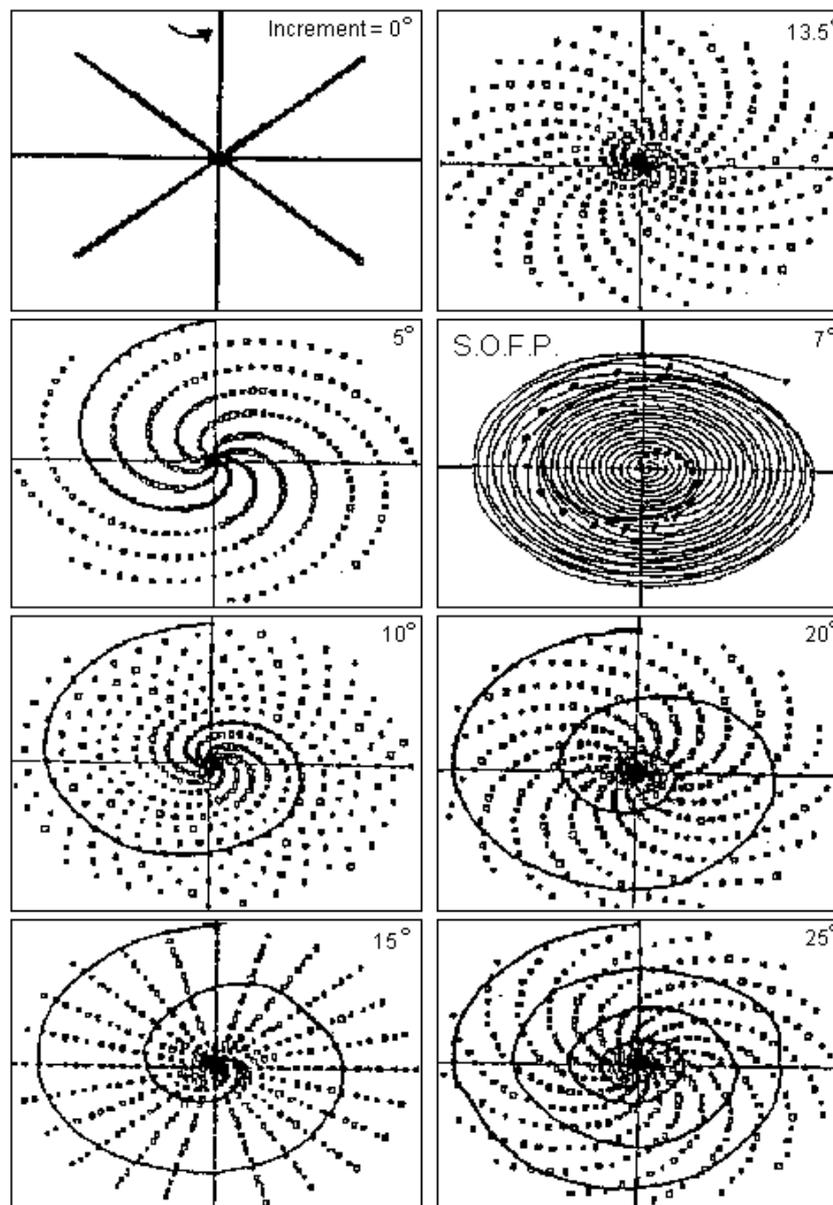


Now mulch – a minimum of half a bale of hay, probably  $\frac{3}{4}$  of a bale or a whole depending on the material really. Always shake the mulch loose and spread thickly around the plant. This process creates air pockets which provide warmth and rain is more easily absorbed.

Lastly we used pink protectors folded into triangular sleeves which provide like an incubator hastening growth as well as protection from animals initially.

Now stand back and FEEL your orchard. Our experience is it feels very loving.

Doing this exercise in groups was a great opportunity to observe our addictions and check in with our feelings. Russ encouraged this regularly - I won't even attempt to comment.



Golden Ratio Planting Guide				
Plant Size	0.10 m		Plant Gap	0.10 m
Tree No	X	Y	Quadrant	Radius From Centre Point
<div style="border: 1px solid black; padding: 5px; display: inline-block;">-X +Y</div> Quadrant 4 Quadrant 3		Y A x i s	<div style="border: 1px solid black; padding: 5px; display: inline-block;">+X +Y</div> Quadrant 1 X Axis	
<div style="border: 1px solid black; padding: 5px; display: inline-block;">-X -Y</div>		<div style="border: 1px solid black; padding: 5px; display: inline-block;">+X -Y</div> Quadrant 2		
1	-0.15 m	-0.14 m	Q 3	0.20 m
2	0.02 m	0.28 m	Q 1	0.28 m
3	0.21 m	-0.27 m	Q 2	0.35 m
4	-0.39 m	0.07 m	Q 4	0.40 m
5	0.38 m	0.24 m	Q 1	0.45 m
6	-0.13 m	-0.47 m	Q 3	0.49 m
7	-0.24 m	0.47 m	Q 4	0.53 m
8	0.53 m	-0.19 m	Q 2	0.57 m
9	-0.55 m	-0.23 m	Q 3	0.60 m
10	0.27 m	0.57 m	Q 1	0.63 m
11	0.20 m	-0.63 m	Q 2	0.66 m
12	-0.60 m	0.35 m	Q 4	0.69 m
13	0.70 m	0.15 m	Q 1	0.72 m
14	-0.43 m	-0.61 m	Q 3	0.75 m
15	-0.10 m	0.77 m	Q 4	0.77 m
16	0.61 m	-0.52 m	Q 2	0.80 m
17	-0.82 m	-0.03 m	Q 3	0.82 m
18	0.60 m	0.60 m	Q 1	0.85 m
19	-0.04 m	-0.87 m	Q 3	0.87 m
20	-0.57 m	0.69 m	Q 4	0.89 m
21	0.91 m	-0.12 m	Q 2	0.92 m
22	-0.77 m	-0.54 m	Q 3	0.94 m
23	0.21 m	0.94 m	Q 1	0.96 m
24	0.49 m	-0.85 m	Q 2	0.98 m
25	-0.95 m	0.30 m	Q 4	1.00 m
26	0.93 m	0.43 m	Q 1	1.02 m
27	-0.40 m	-0.96 m	Q 3	1.04 m
28	-0.36 m	1.00 m	Q 4	1.06 m
29	0.95 m	-0.50 m	Q 2	1.08 m
30	-1.06 m	-0.28 m	Q 3	1.10 m
31	0.60 m	0.94 m	Q 1	1.11 m
32	0.19 m	-1.12 m	Q 2	1.13 m
33	-0.91 m	0.70 m	Q 4	1.15 m
34	1.16 m	0.10 m	Q 1	1.17 m
35	-0.80 m	-0.87 m	Q 3	1.18 m
36	0.01 m	1.20 m	Q 1	1.20 m
37	0.82 m	-0.90 m	Q 2	1.22 m
38	-1.23 m	0.11 m	Q 4	1.23 m
39	0.99 m	0.76 m	Q 1	1.25 m
40	-0.23 m	-1.24 m	Q 3	1.26 m
41	-0.68 m	1.08 m	Q 4	1.28 m
42	1.25 m	-0.34 m	Q 2	1.30 m
43	-1.17 m	-0.60 m	Q 3	1.31 m
44	0.46 m	1.24 m	Q 1	1.33 m
45	0.51 m	-1.24 m	Q 2	1.34 m

<b>Golden Ratio Planting Guide</b>				
<b>Plant Size</b>	<b>0.10 m</b>		<b>Plant Gap</b>	<b>0.10 m</b>
<b>Tree No</b>	<b>X</b>	<b>Y</b>	<b>Quadrant</b>	<b>Radius From Centre Point</b>
46	-1.23 m	0.58 m	Q 4	1.36 m
47	1.31 m	0.40 m	Q 1	1.37 m
48	-0.70 m	-1.20 m	Q 3	1.39 m
49	-0.29 m	1.37 m	Q 4	1.40 m
50	1.15 m	-0.82 m	Q 2	1.41 m
51	-1.42 m	-0.18 m	Q 3	1.43 m
52	0.93 m	1.10 m	Q 1	1.44 m
53	0.05 m	-1.46 m	Q 2	1.46 m
54	-1.03 m	1.05 m	Q 4	1.47 m
55	1.48 m	-0.08 m	Q 2	1.48 m
56	-1.15 m	-0.95 m	Q 3	1.50 m
57	0.21 m	1.50 m	Q 1	1.51 m
58	0.86 m	-1.25 m	Q 2	1.52 m
59	-1.50 m	0.34 m	Q 4	1.54 m
60	1.35 m	0.76 m	Q 1	1.55 m
61	-0.48 m	-1.49 m	Q 3	1.56 m
62	-0.65 m	1.43 m	Q 4	1.57 m
63	1.46 m	-0.62 m	Q 2	1.59 m
64	-1.51 m	-0.53 m	Q 3	1.60 m
65	0.76 m	1.42 m	Q 1	1.61 m
66	0.41 m	-1.57 m	Q 2	1.62 m
67	-1.37 m	0.89 m	Q 4	1.64 m
68	1.63 m	0.27 m	Q 1	1.65 m
69	-1.02 m	-1.31 m	Q 3	1.66 m
70	-0.13 m	1.67 m	Q 4	1.67 m
71	1.23 m	-1.15 m	Q 2	1.69 m
72	-1.70 m	0.02 m	Q 4	1.70 m
73	1.27 m	1.14 m	Q 1	1.71 m
74	-0.17 m	-1.71 m	Q 3	1.72 m
75	-1.04 m	1.38 m	Q 4	1.73 m
76	1.71 m	-0.32 m	Q 2	1.74 m
77	-1.49 m	-0.93 m	Q 3	1.75 m
78	0.48 m	1.70 m	Q 1	1.77 m
79	0.80 m	-1.59 m	Q 2	1.78 m
80	-1.67 m	0.63 m	Q 4	1.79 m
81	1.67 m	0.67 m	Q 1	1.80 m
82	-0.78 m	-1.63 m	Q 3	1.81 m
83	-0.53 m	1.74 m	Q 4	1.82 m
84	1.58 m	-0.93 m	Q 2	1.83 m
85	-1.80 m	-0.38 m	Q 3	1.84 m
86	1.08 m	1.51 m	Q 1	1.85 m
87	0.22 m	-1.85 m	Q 2	1.87 m
88	-1.42 m	1.22 m	Q 4	1.88 m
89	1.89 m	0.06 m	Q 1	1.89 m
90	-1.36 m	-1.33 m	Q 3	1.90 m
91	0.11 m	1.90 m	Q 1	1.91 m
92	1.21 m	-1.48 m	Q 2	1.92 m
93	-1.91 m	0.28 m	Q 4	1.93 m
94	1.60 m	1.09 m	Q 1	1.94 m
95	-0.45 m	-1.90 m	Q 3	1.95 m
96	-0.96 m	1.71 m	Q 4	1.96 m
97	1.87 m	-0.62 m	Q 2	1.97 m
98	-1.81 m	-0.81 m	Q 3	1.98 m
99	0.79 m	1.83 m	Q 1	1.99 m
100	0.66 m	-1.89 m	Q 2	2.00 m

## What are the benefits of the Fibonacci planting layout?

### Why should we adopt this concept?

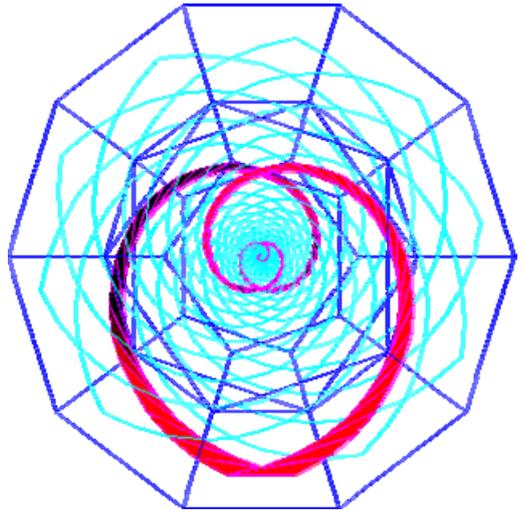
The Fibonacci planting layout optimises the viable volume of plants within a given area, in the same manner that is reflected through out the natural universe. As you explore the natural universe, the Fibonacci spiral, in its two directional curving outline, appears every where.

It optimises the potential sun yield for the growing plants, allowing the optimal positioning of the plant to face the sun during the day and for the plant axes to follow the path of the sun.

By recognising the different growth profiles of plants to be placed in the garden, the Fibonacci concept enables a mix of plants to be accommodated within the one garden; larger plants requiring wider spacing than smaller plants. Also consider placing larger plants in the centre.

By avoiding mono-culture planting, then complementing plants can be beneficial for the soil and their neighbouring plants within the one garden bed. Nitrogen fixing plants assist ground cover and their neighbouring nitrogen drawing plants, as an example. Mono-culture, single species planting, is unloving to the soil.

Just as one's soul condition is reflected in the soil, so it is in the plants. Raising one's soul condition is beneficially reflected in the plants and subsequently in the produce delivered by the plants.



'The land does not have a soul condition, it actually REFLECTS our soul condition. (I have never said that the Land has a soul condition, because the land itself does not have a soul).

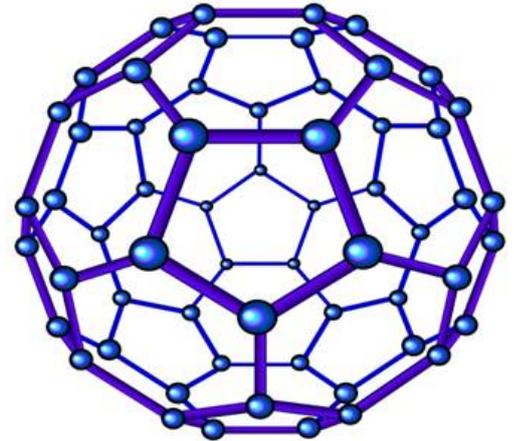
The land is always attempting to repair itself, but man generally tries to destroy it through mans soul condition.'

Yeshua

9 Dec 10

**What are the benefits of the Fibonacci planting layout?**

**Why should we adopt this concept?**



**A note from Russell:**

- All the information I share is from God, Yeshua, my guides, and other sources.**
- There are some very different benefits from the Fibonacci layout.**
- The first being that you are utilising all the space, very much like nature would use the space, with no straight lines.**
- The ground will get covered by the shade and leaf matter falling from, lets say, trees. This then helps the soil to be protected from becoming compact and in return feeds the trees.**
- The second is that it is a tight spiral and it holds energy.**
- The third is that if we had a prayer first and asked for Divine Love, Gods love to enter us while creating the Fibonacci layout and also whilst owning our emotions as they occur, not projecting them, then we are creating a space of love.**
- The reason why we would adopt this concept is that it is what God has created.**
- If you were to look around, Fibonacci is applied to nearly every thing in nature, so it is God's creation.**
- Fibonacci is a name given to a mathematical formula, which is an observation of nature or Gods creation.**



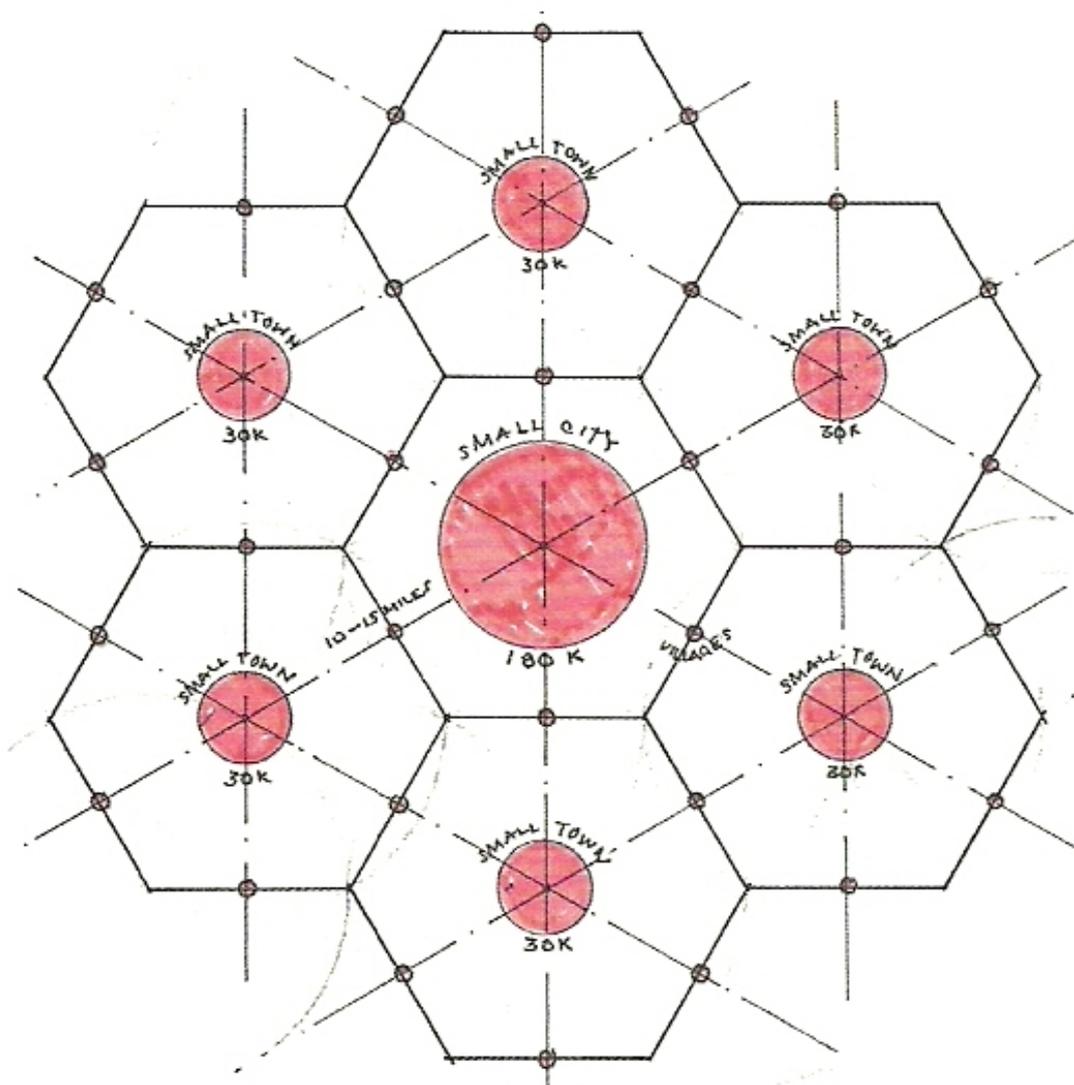


## WALKABLE NEIGHBOURHOODS:

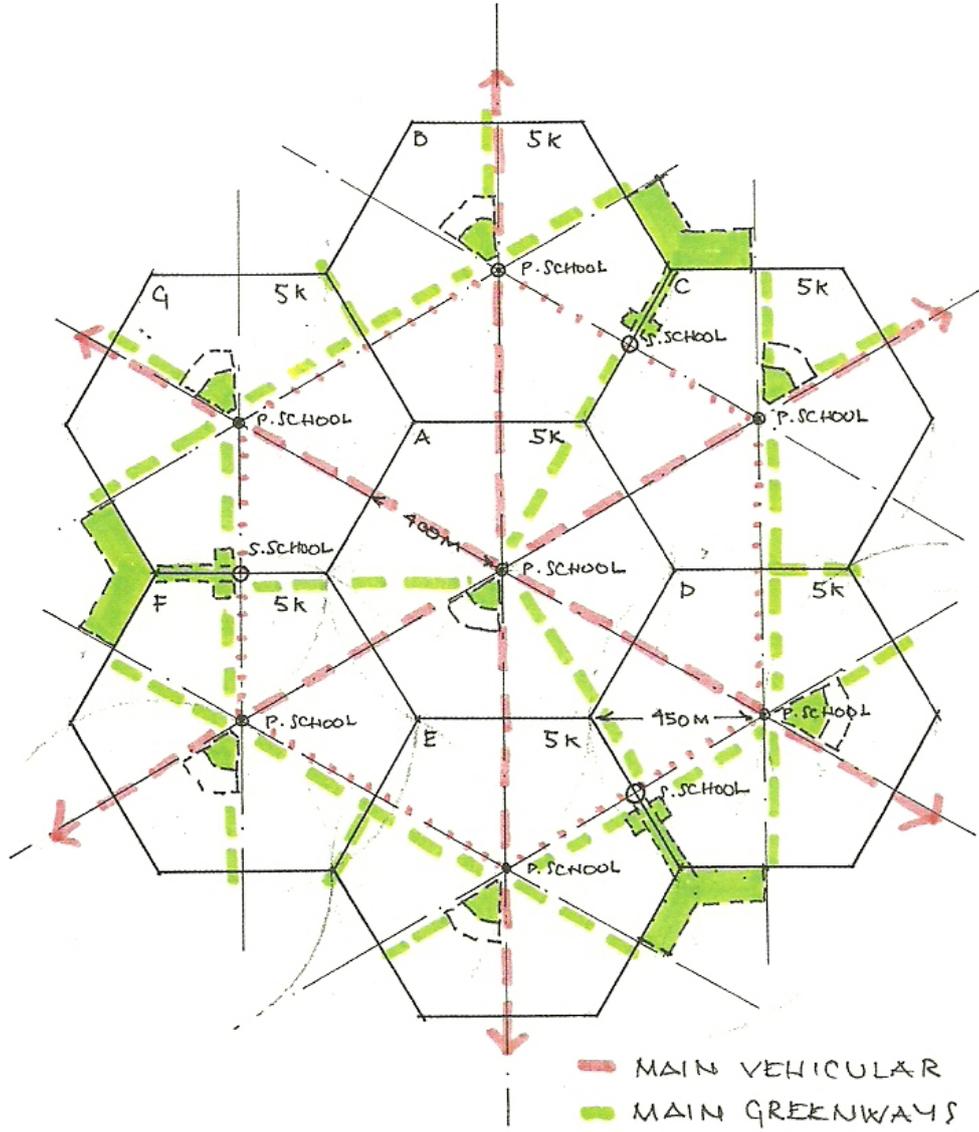
The Prince of Wales, in his book, *Harmony – a new way of look at our world*, outlines the concepts of Fibonacci layouts for living communities, villages and towns.

He has demonstrated the principles of ‘sustainable’ urbanism which can add social and environmental value to towns and cityscapes through mixed-use development, by placing the pedestrian at the centre of the design process, by emphasizing local identity and character and by use of ecological building techniques.

‘Poundbury is an attempt to create a fully liveable settlement based on traditional approaches, and to do this in a way that truly meets modern challenges, for example reducing reliance on dwindling supplies of oil and building the social capital that is so important for our collective well-being.’ P.240 *Harmony*



# IDEALISED TOWN STRUCTURE POPULATION = 35,000 PEOPLE



7 NO. WALKABLE NEIGHBOURHOODS '07

**The Fibonacci Sequence is:** 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, etc....

<http://www.fxstreet.com/education/technical/using-fibonacci-to-determinate-market-goals/2006/07/07/>

Fibonacci proved that this sequence could be found in the evolution of many natural phenomena. He used as an example the rabbit reproduction process. He wanted to know how many rabbits will be born in a year, knowing that:

1. A couple of rabbits could birth since the first month, but the others couples just can do it since the second month.
2. Each labor brings two new rabbits as result.

If we suppose that any rabbit die, the process will be the like this:

1. In the first month there will be born two rabbits. So, we will have two couples.
2. During the second month, the initial couple will born another couple, and then will be three pair of rabbits.
3. In the third month, the initial couple, and the second one, will produce new couples. Then, there will be five couples.

Continuing with the present analysis, we could see in the next table the results of the rabbit's couples forming the Fibonacci Sequence.

Month	Couples ready to procreate	Reproduction Process	Number of couples
Initial Moment	None		1
First	1	1 + 1 New	2
Second	1	2 + 1 New	3
Third	2	3 + 2 New	5
Fourth	3	5 + 3 New	8
Fifth	5	8 + 5 New	13
Sixth	8	13 + 8 New	21
Seventh	13	21 + 13 New	34
Eighth	21	34 + 21 New	55
Ninth	34	55 + 34 New	89
Tenth	55	89 + 55 New	144
Eleventh	89	144 + 89 New	233
Twelfth	144	233 + 144 New	377

Despite all this, we find the major utility of the sequence in these fundamentals properties:

1. If we divide two consecutive numbers,  $1/1$ ,  $1/2$ ,  $2/3$ ,  $3/5$ ,  $5/8$ ,  $8/13$ , etc. We could find that the results tend to 0.618.
2. If we divided two non consecutive numbers from the sequence,  $1/2$ ,  $1/3$ ,  $2/5$ ,  $3/8$ ,  $5/13$ ,  $8/21$ , etc. We could see that the result obtained tend to 0.382.
3. If we calculate the division between any numbers of the sequence to the next lower,  $21/13$ ,  $13/8$ ,  $8/5$ ... the results tend to 1.618, which is the opposite of 0.618.
4. If we calculate the division between any numbers of the sequence to the higher low non consecutive,  $21/8$ ,  $13/5$ ,  $8/3$ ... the results tend to 2.618, which is the opposite of 0.382.

**E.g.;**  $144 / 233 = 0,618$   $144/89= 1.6179$

The ratio 1,618, or the opposite 0,618 were denominated by the Old Greeks "Golden ratio" or "golden section", and they are represented with the Greek letter phi, referenced by the Greek author, Phidias. Chirstopher Carolan mentions in his book that Phidias was the author of the Athens statues in the Parthenon and The Zeus in Olympus. He considered the phi number in art, and in nature, very important.

This ratio, who's opposite is the same number more the unit, characterize all the progressions of this kind, where ever it is the initial number.

The most important ratios are 0,618 and it's opposite 1,618, but not the only ones. We can continue on the ratios derivation of the Sequence, just increasing or decreasing the distance between the Fibonacci numbers.

So, each number is related to the next higher through the 0,382 ratio, and with the next lower by the opposite ratio, 2,618.

**E.g.:**  $144/377=0,3819$   $144/55=2,618$

In the same way, the division between a number and the third next, bring as a result, 0,236, and the proportion between a number and the third lower is 4,236.

**E.g.:**  $89/377=0.236$   $144/21=4,238$

The same occurs with 0,618 and 1,618, these ratios are more exactly, when we use higher Fibonacci numbers.

The next table shows some examples:

Ratios de 1,618 Ratios de 0,618

1,618 2 = 2,618 0,618 2 = 0,382

1618 3 = 4,236 0,618 3 = 0,236

1,618 4 = 6,854 0,618 4 = 0,146

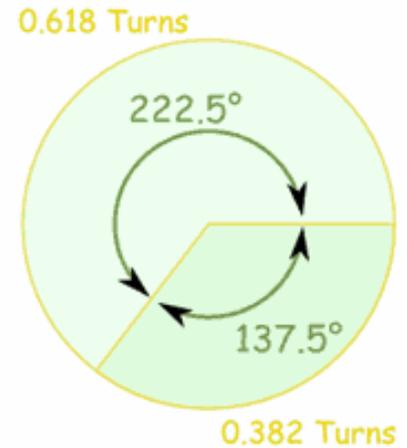
Carolan emphasized that the Fibonacci ratios could be order as follows: 0,146, 0,236, 0,382, 0618, 1, 1,1618, 2,618, 4,236, and 6,854. Then we could find and additive sequence with the properties of the Fibonacci Sequence, because each number is the sum of the immediately two before, and moreover, each number is 1,618 times the number before.



## The Golden Angle

[http://gardeningmath.blogspot.com/2008\\_03\\_01\\_archive.html](http://gardeningmath.blogspot.com/2008_03_01_archive.html)

As a growing plant rotates, it may demonstrate the Golden Angle in its leaf or flower patterns. The Golden Ratio decimal is 0.618, which equals 222.5 degrees on a circle. The opposing angle is 137.5 degrees, which is known as the Golden Angle. This is the angle of rotation for flower petals, leaves, and other plant patterns. If a plant is demonstrating the golden angle, then there will be 137.5 degrees between each successive leaf as the plant continues to grow.



the sequence (formula)

$$F_n = F_{n-1} + F_{n-2}$$

the resulting numbers  
0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, ...

the divisions for the golden ratio

$$144/89 \approx 1.618\dots$$

$$233/144 \approx 1.618\dots$$

$$377/233 \approx 1.618\dots$$

}  $\varphi$  (phi)

## The Golden Ratio

Back to Fibonacci!

Plants turn in spirals as they grow, so that the cells are not produced in straight lines. **It is better to grow in a circular motion, because this is sturdier and more compact.** The golden ratio for plant rotation is 1.61803... which is demonstrated in the leaf rotations or flower patterns below:

When two successive Fibonacci numbers are divided, they equal numbers close to the golden ratio!

$$2 / 3 = 1.5$$

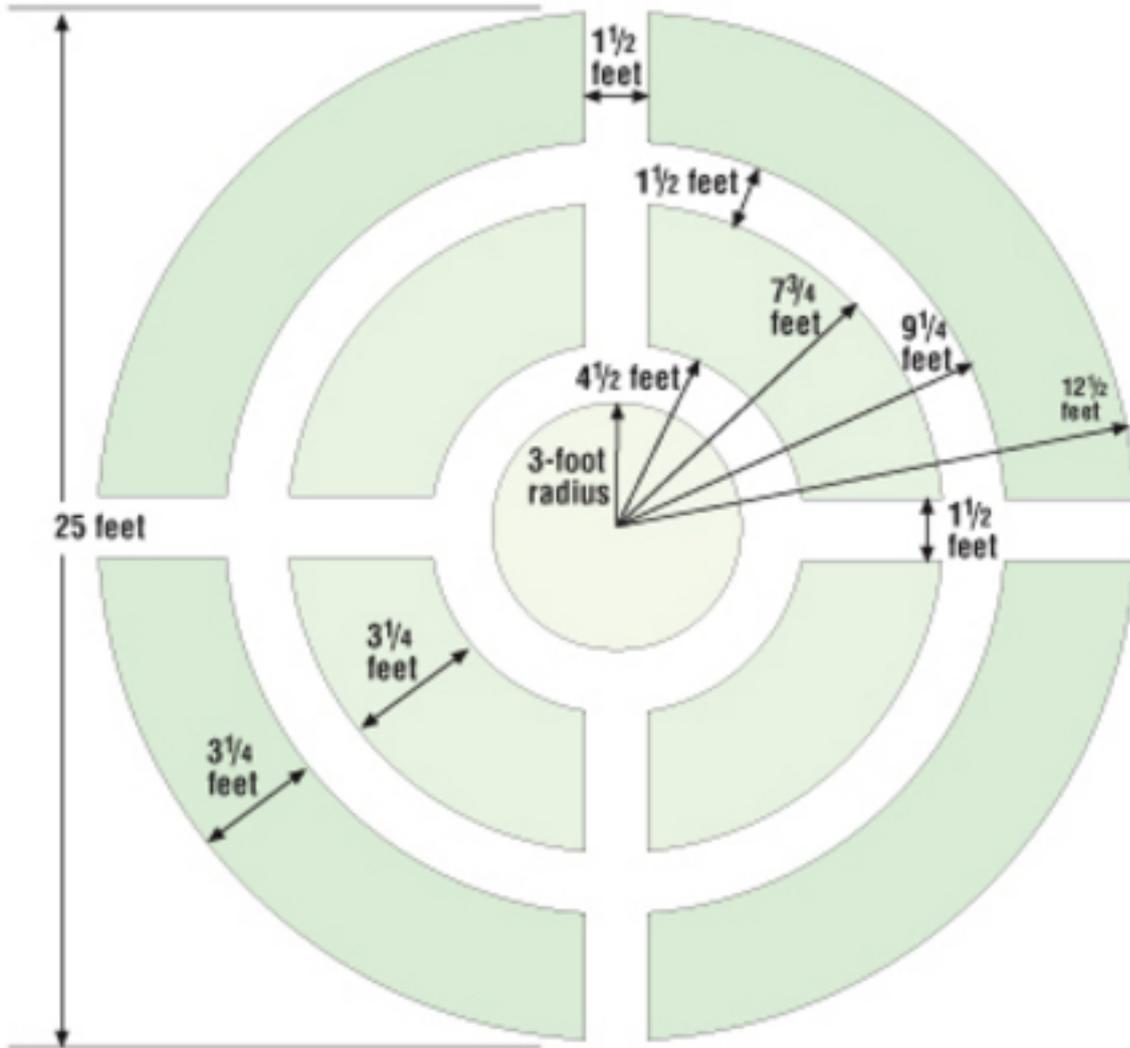
$$3 / 5 = 1.666666$$

$$5 / 8 = 1.6$$



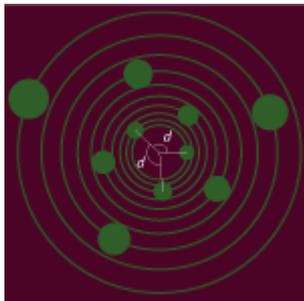
## Garden Shapes

Geometry will also play a role in your garden's layout. Traditional hobby gardens are usually in an easy rectangle or square shape. Some gardens are created in concentric circles. Are you interested in creating your garden as a circle? Use the plan below as an example:

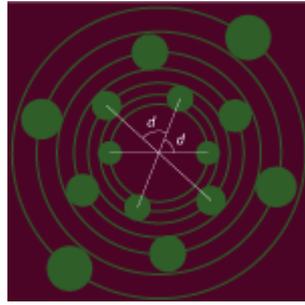


[Fibonacci Phyllotaxis](#)

Do you remember the Fibonacci numbers from earlier? There is another way that Fibonacci numbers relate to plant growth. There are two formations of leaf patterns which are relevant to the Fibonacci numbers.



**Spiral Phyllotaxis**



### Multijugate Phyllotaxis

Approximately 92% of plants with multijugate and spiral phyllotaxis have Fibonacci phyllotaxis. **The leaves of plants grow in certain patterns which allow the leaves to access the most sunlight possible.** The leaves will rotate in clockwise and counterclockwise directions. The leaf arrangement for the spiral phyllotaxis example is  $2/3$ . This means that there are **two** spirals winding **counter clockwise** and **three** spirals winding **clockwise**. The number of spirals will be two consecutive Fibonacci numbers.

### [Fibonacci Numbers](#)



Fibonacci numbers are a pattern of numbers found in all aspects of nature. Some of the first few numbers are: 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, and so on. You can find these patterns in the plants you grow in your garden. You may find the flowers that bloom have a certain number of petals which will correspond to the Fibonacci number pattern. For example, the pumpkin flower at the right has 5 petals.

### [Measuring Rainfall](#)

All of the plants in your garden will need water to grow! The general rule of *green thumb* for your plants is to supply them with a total of one inch (25ml) of water total over a week. Depending on how hot the weather is, you may need more water than this. In order to measure the rainfall your garden receives from passing storms, you can create a rain gauge. An easy way to collect water is with a clear glass jar. This way you can easily see and measure the rainfall in the jar. If a passing storm gives your garden water, you do not have to water them that day!

\*Keep in mind that if it was a quick downpour, much of the water will have run-off and may not have soaked into the soil in your garden. If you receive a steady rain through-out the day, this will be much better for the soil's moisture.

## Two days of getting to know the land at ‘Wilkesdale Learning Centre’

Personal notes from AJ’s introductory talk:

Wilkesdale

26 Nov 2010

How do you love something?

You must get to know it.

### Getting to know the land.

- a) The Land as it is now
- b) The history of the land:
  - How it has been treated.
  - It’s eco systems – past and present.
  - What damage has been done to it (ecosystems)
  - Feel what it was like before the damage – the insects, plants, birds, reptiles, mammals, fish – are there any such things as pests? What is a creature’s purpose? Must learn to FEEL every aspect of the land.
- c) Our effect upon it – how have I impacted upon the land? FEEL about that.

AJ mentioned the line from The Matrix (movie) that “Mankind has become the virus of the planet” and commented that this statement holds a lot of truth. We also need to eradicate our emotions of lack.

- d) FEEL about the potential future of the land.

We don’t want to inhibit God’s process, rather we need to learn to work in harmony with God’s plans.

We need to realise that God intended for man to share the land with all of Her creatures.

One third of Australian marsupial wildlife is either endangered or extinct as a result of man’s impact upon the land.

It is only once we know something that we can then give to it.

The aim is to have a great variety of animals on the property.

Everything is about love.

We have the potential to create the environment at the Wilkesdale Learning Centre (or anywhere else) as the 2<sup>nd</sup> or 3<sup>rd</sup> sphere of the spirit world.

Most of Earth currently is the equivalent to the hells of the first sphere of the spirit Mansion Worlds.

The most beautiful place on Earth is maybe the equivalent of Summerland.

FIRST feel what happened THEN feel what you want to do.

The land responds to judgment – respond with compassion and love.

There will be a time lag between what you do and the results that are achieved – be patient.

ALL of mankind has emotions to do with conquest, lack, superiority and selfishness – allow yourself to work through these emotions.

The things that have survived are the things that are the least sensitive to man's intrusion.

Creating complete ecosystems creates harmony which supports everything – the land will then be able to support us fully.

Our intentions are out of harmony with love.

FEEL about it before you do anything.

I need to make sure that I IMPROVE the land and not denigrate it – Get to know it – feel for it – begin to love it!

To introduce diversity you need to introduce something of it.

We are not owners or caretakers of the land – rather we are caregivers of the land.

Always choose the poorest part of the land for initial (temporary) settlement then work to improve your condition before taking from the land.

Aim to have your soul condition better than the soul condition of the land.

Consider – what is my attitude towards the land? – FEEL your emotions around this.

As your soul condition improves you will need less.

Don't act in fear – feel what your desires are and follow that.

Loving myself is loving my environment.

The more I love myself the more I will care for my environment and the land.

Every bit of emotional work I do will improve the land.

Learn to love EVERYTHING that God created.

Everything at the moment is predatory because man is predatory.

Everything around me reflects my soul condition.

Everything that we have is a gift from God to show us what we need in order to grow in love.

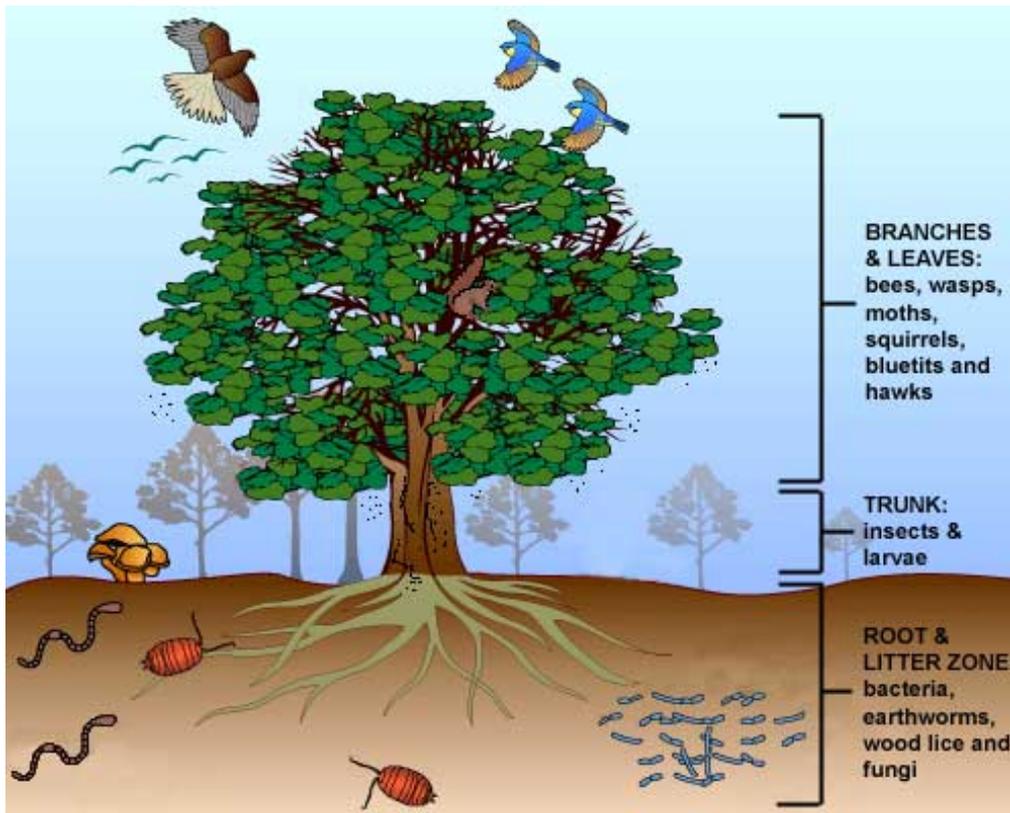
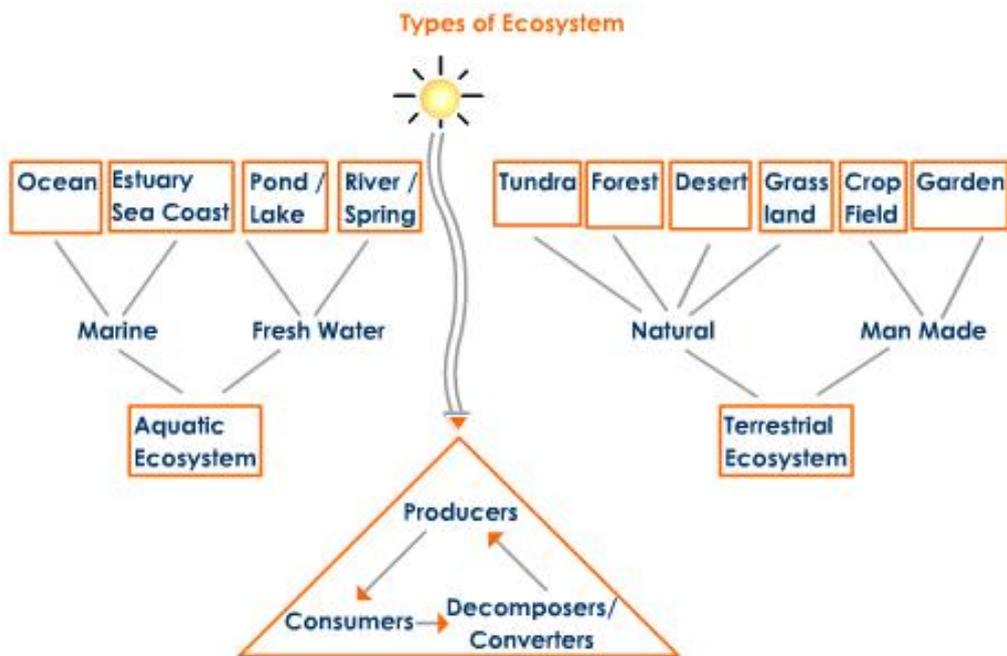
We need to feel repentance for the condition of the Earth and for our actions on every piece of land we have been on.

Why do you want to take action without knowing?

Always consider what is the emotion behind the action!

Separation is not loving.

Avoid judgment and stop living in fear! Learn to love.



## **Two days of getting to know the land:**

Introduced by AJ and facilitated by Russell Roads – further personal notes.

AJ outlined our need to understand the land – its current condition, and its history. Consider all aspects – soil, trees, undergrowth, mammals, birds, insects, reptiles, water species, etc.

Russell led us to various places on the property and asked us to consider, by observation, what the history of each area had been and what the current condition is.

The next day we went out on our own to become acquainted with other areas of ‘Wilkesdale Learning Centre’.

This is a summary of my personal observations.

The lower flats of the property run along the southern road frontage and up the eastern boundary.

I was surprised how barren this land was having been stripped of every morsel of timber which could be made use of, the only surviving trees usually deformed in shape and few and far between, providing very little shelter for the cattle and other animals, probably goats which have run this land. The variety of trees in this area is limited to a couple of eucalypts and iron wood.

There is evidence of timber milling in this area, and feeling of the owners of that time as being only interested in monetary return with little or no love for either the land or the men expected to work there. There is little long grass returning to this area yet, with evidence of lantana and white ant hills doing their best to improve the condition of the soil for further progress. This area is generally even lacking the “pioneer plants” of wattles which must herald the next stage of progress.

Sounds of insects and birds are spasmodic as there is not good ground cover or nesting habitat.

Travelling up the eastern boundary near the creek, many more trees have survived and the undercover is quite verdant - a very pleasant spot for a picnic.

And it would seem a much more favoured place for many creatures to enjoy. A little further north is the large grassed area, where some fruit planting has begun.

Generally moving north on the property to the middle section, the vegetation becomes a little more dense and the undergrowth more established in these areas. There is much revegetation signalled by the saplings of wattles and eucalypts. The overall variety of trees however is still sadly lacking. This whole area too has been logged periodically, progressively taking out the largest trees, again only the deformed and hardiest surviving. There are many signs too of ringbarking (when logging was no longer allowed) as a means to take out the trees.

The creeks on both sides of the property are suffering from erosion and would benefit from leaky dams to aid in the silting up and re-establishing of constant flowing water year round.

And on the top third of the property the property is blessed with much thicker forest with more varied plant species and that reflects in the bird and animal life as well. Because of the canopy, the climate here is much cooler and it was a pleasure to traverse these areas. It was also noticeable how much more pleasant these areas were without the scarring of roads and constant vehicular traffic. These areas have

the potential to regenerate into lush rain forest and need only the introduction of many and varied species.

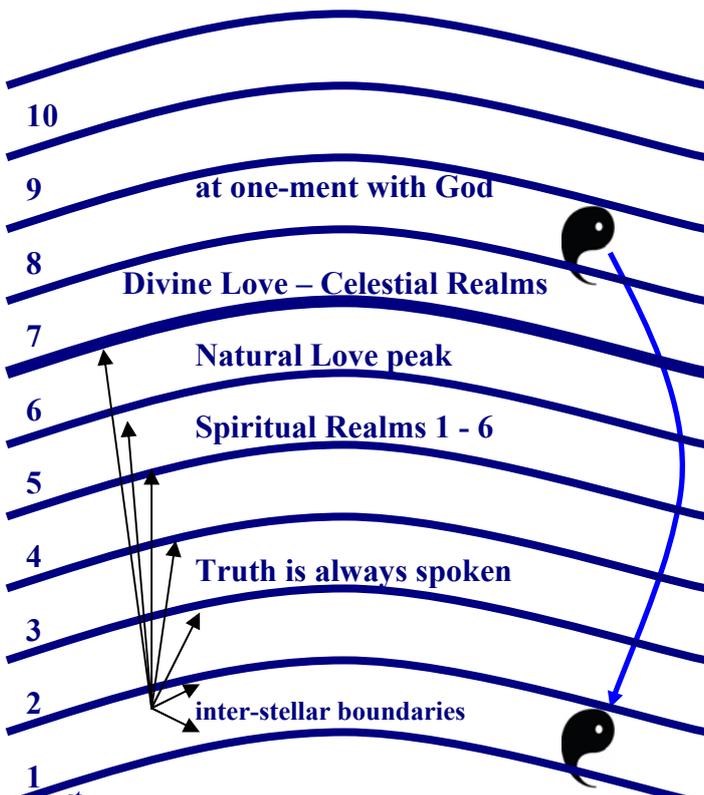
I have already mentioned the orchards and dam and the roads which we have inflicted upon this property causing an overall degradation of the land to what would be the equivalent of the hells.

I look forward to being a part of a committed group to assist in the restoration of this land.

Thanks Russ and AJ for your guidance.

Note: There are DVD video clips available of the walk and talking session with Russell. Recorded 26<sup>th</sup> & 27<sup>th</sup> November 2010 – "Tuning In To Your Environment" .... with Russell Roads Total time is 86 minutes. Other title: "A Walk Around The Wilkesdale Property 26-11-10"

**SPHERES: 1-6 Kingdom of Man Domain of Natural Love, 8- ongoing Kingdom of God, Domain of Celestial Spirits**



Spirits from the 8<sup>th</sup> sphere can visit spirits in lower spheres, but not the other way round.



Summerland is more beautiful than anywhere on Earth.



3 Spheres of Disharmony The hells are unimaginable places of darkness.

1<sup>st</sup> sphere, being of the Earth plane, has Summerland as its highest plane. The mid range planes, where most of us arrive, are similar in nature to Coober Pedy, Andamooka, and Marble Bar (inland Australia). The lowest planes in the 1<sup>st</sup> sphere are the dark hells. Some of us will arrive in the 2<sup>nd</sup> sphere. Very few have ever arrived in the 3<sup>rd</sup> sphere.

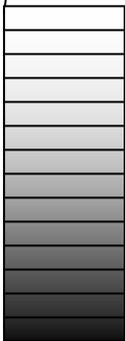
**1<sup>st</sup> SPHERE ASPECTS:**  
**Summerland, etc, nurseries**



**Summerland, etc., are beautiful regions of 1<sup>st</sup> sphere.**

**Summerland, etc, are within the highest planes of the 1<sup>st</sup> Mansion World / sphere.**

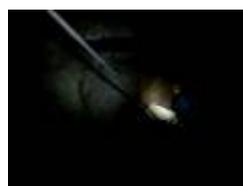
**There are 1,000s of plains in the 1<sup>st</sup> sphere.**



**Ambience of mid range plains of the 1<sup>st</sup> sphere is where the majority of humanity pass into.**

**2 Planes of Disharmony / Earth:**

**The hells are unimaginable places of darkness. Consider you are stuck at the end of the deepest longest mine ever, on your own, without any lights!**



## **WORKING WITH LAND NOTES:**

The land does not have a soul condition, it actually REFLECTS our soul condition. The land itself does not have a soul. The land is always attempting to repair itself, but man generally tries to destroy it through mans soul condition.

To love something (land) you must first get to know it. Get to know the land. Feel it, love it before you change it. Take time to walk the whole area of the land and feel into it. First, feel what happened to the land, what was it like 10-50-100-thousand of years ago. Then feel into its potential. Most of our land now is mid-1st sphere to hells condition. The most beautiful at the moment would be like Summerland (high 1st sphere). It has the potential / we can create the same environment as in 2nd or 3rd sphere.

Be care-givers rather than care-takers. Why do we take without 'knowing'? We need to *experience* things in order to *know* them.

If we choose the lowest, poorest part of the land we can demonstrate how living in harmony with God's Laws can improve the condition of the land. 'Loving myself IS loving (to) my environment.' 'All my emotional work will make a difference and improve the land.' Aim to have a higher soul condition so that you can enhance the land. We all need to feel repentance for each piece of land we have lived on (unconsciously) and the Earth.

We need to work in harmony with God's plan (not ours). Feel where we are out of harmony with love before doing anything. Feel into the 'why' of our desires. Each creature has a place, embrace and encourage its place in the ecosystem. We need to create ecosystems that support each other. What has survived (man) is least-sensitive to man's intrusion and as we become more sensitive, things (creatures and plants) will re-appear.

As our soul condition improves we will need to take less. Focusing on food production causes fear and degradation. Most food production at the moment is 'predatory' because man is predatory. If we let go of our 'conquest' emotion, this will change. Feel into: fear, ownership, lack, conquest, superiority, consumption, control, predator, separation. Land responds to judgment (and all other qualities of our soul condition).

Kindly view the DVD's, as mentioned earlier.

[Observations from childhood: Sitting on a straining post that was the corner of four adjoining farming properties, one could observe that for these four very similar properties, one was very vibrant and prosperous, one was struggling, and the remaining two were in very poor shape. These four farmers were friendly to each other, met up at least weekly and shared information between themselves, yet only one farmer was very successful. Now, we can appreciate that the success was a reflection of each farmer's soul condition, the soul condition of each farmer was mirrored in the viability of the farming operation.]



To find our way home, we must remember who and what we are!  
The real you is your soul.



SOUL  SPIRIT BODY  PHYSICAL BODY

Prayer is an emotional exchange with God