Wild Swans

Colin Austin 27th Jan 2015 © Published under Creative Commons

Jung Chang, the author of one of the great classic books, Wild Swans was asked in a TV interview for her formulae for happiness.

First she said health, next a belief and third belonging to some form of community.

What's this got to do with wicking beds and growing plants?

Health - Diet is a major factor in health, as the wise say let food be your medicine. I can relate to this – we are fighting to save my wife's foot from being chopped of from diabetes and I have had a heart operation and various bit and pieces cut off and various metallic inserts.

At least I can expect a discount from the undertaker.

Belief - I believe that everyone should have enough quality food - that there should be a reasonable equity among people - a sense fairness (were losing out on that one).

Good diet is critical for health yet our modern factory food system is maiming and killing us. It is controlled by a handful of multi nationals who primary concern is profit and the accumulation of wealth by a handful of people. Their formulae for making money is simple – buy as cheap as possible and sell as high as possible. They use their market power and patent law to squeeze the growers and marketing clout to sell as dear as possible.

One of the richest men in the world is the promoter of Red Bull, which is just sugar water marketed as an energy drink. The processed food industry is a neo-monopoly in that they all follow the same business formulae - one which will shorten the life and main your kids and my grandkids.

I believe this is just **plain wrong**.

I know this happens in many forms of business - but I don't really care if the mobile phone business is a bit of a rip off - people are not forced to take pictures of themselves and post to their friends. But food is different - all people should have the benefit of healthy food.

I feel strongly about the way the factory food system is harming people, destroying the soil and environment on which human life depends just for profits which flow to a few.

I look at Xiulan's (my wife) foot which started to turn black as a result of diabetes and wonder what the surgeon will say when we visit him next month. I will be very happy if I can stop that happening to other people. I need to do something - but what?

What can I do about it?

What can I do about these global problems? My life's work has been in developing new technologies and I did build up Australia's leading exporter of technical software so I do understand how technology works.

I have been involved in the growing of food since childhood and for years I have been experimenting with regenerating soil, using water more effectively and more recently the wicking system.

So yes I have a technology which is a cheap and simple way for people to grow their own healthy food. But that is not enough – the word must be spread.

But to be honest I am a bit of a recluse - I live in an eco-village in rural Queensland and am just not the sort of person to join in protest marches or chain myself to McDonalds. At 75 years old I have no interest in setting up some alternative business in the healthy food business.

I am more than happy experimenting with better wicking beds systems - it's fun and rewarding - but to make an impact I need to get the message out. I am more than happy to share this technology with people who care about their health. The message has to be got out to the public and that is where being part of community comes in.

I have focused on developing Wicking beds so they are a simple and cheap way for people to grow healthy food and ensure that the get the critical mineral, vitamins and phytonutrients into the bodies.

Even if I wanted to I could never spend the billions of dollars on promotion and slick intellectual property lawyers that the food industry spends on a daily basis - I am not even a microscopic microbe on the back of a very big elephant.

But there is another way other than mega slick advertising.

Community - Many people appear to be perfectly happy to eat the cheap and convenient sugary and fatty food and waddle down the street like a duck.

But there are people out there who are concerned about their health and want to eat nutritious food - but more - they also share my views that the factory food system is failing society and they want to do something about it.

This is my community - it is no accident that I choose the name healthyfoodassociation.com for one of my webs.

I have to depend on the community to spread the word by telling their friends, spreading the word on Face Book or their web sites or whatever.

Spreading the word

This is where Jung Chang got it right - belong to a community is good.

But I am sure there are thousands, if not millions of people around the globe who share my views that everyone has the right to healthy food. Wicking beds can and should be a cheap way of producing quality food.

I can explain on my web how to grow healthy food so that people who read my web can share this information with others who in turn can share it with others. I get messages from people all over the world - maybe just asking simple questions but often thanking me for my effort on diet and health. If you like - this is my way of belonging.

As I cannot spend big bucks on advertising and promotion I have to rely on the community spreading the word from person to person.

I encourage people who believe in the importance of diet and health to share this information with friends who can in turn share this information with their friends and then their friends.

This is a far more effective way of spreading information than any billion dollar advertising campaign.

Creative commons

I don't ask for money for this information it is all for free to be shared around the globe. I am not a Monsanto which makes huge profits by manipulating a monopoly position by heartless use of the patent system - suing small farmers and forcing them to buy GM seeds.

When I first started promoting wicking beds I had not heard about the system of Creative Commons and simply put the information on my web. Now all my publications are under the protection of Creative Commons.

Some commercial companies are now selling wicking beds without recognising my intellectual property. This is not a big deal for me as I did put the information up for free on my web, but I do object to the high prices they are charging sometimes over $200 and worse they are using the wrong technology and offering no technical support.

Wicking beds should be cheap and easy to use so everyone can access healthy food.

But there are methods of managing this free information which has already been faced in the computer software, music and similar intellectual property businesses. This is the system of creative commons which has been developed so that creators of new ideas can share their ideas, technology music or whatever with others for free but still receive some reward for the efforts should it go commercial.

The essence of the system is simple - you can share, copy, reproduce, talk about, lecture or whatever means you like to tell people about the technology I have developed but you must recognise the author as the original source.

This information can be used free of charge for private use but not for commercial use.

This does not mean that people or companies cannot set up business to make money out of my technology - I am happy for commercial operations to use my technology - I want my technology to be used as widely as possible - it is simply that if they do want make money they need to enter into a proper licensing arrangement with me.

This is not my system - it is part of a formal legal system for creative commons which can be studies at many sites on the web by googling Creative Commons.

But what is the message I am asking people to get out there?

Wicking beds - a simple and cheap way for people to grow healthy food

Ok you may be happy to spread the word but what are the words to spread?

First don't get hung up on the physical form of the bed

Wicking beds should be simple, cheap and easy to use so everyone can benefit. All that is needed is some form of waterproof box with a means of filling and draining. I am often asked to provide drawings or designs for wicking beds.

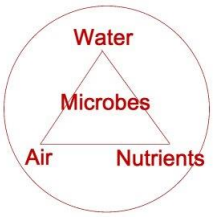
Virtually anything that holds water will do.

The answer is the physical design simply does not matter - it can be a hole in the ground lined with plastic, it can be $2 bucket, an old bath or fridge from the tip or some work of art. It simply does not matter.

It should not be too deep so that the roots of your plants cannot reach the bottom or else you will end up with stagnant water. I often plant a thirsty plant like a tomato or Kang Kong just to get its roots down and clean out any stale water for me.

If you have a deep rooted plant that puts it roots down to 60 metres (as some trees do) then don't even think about building a 60 metre wicking bed. Simply build the bed beside the tree so water can wick out into the surrounding soil. Roots are incredible effective at picking up water.

Does this matter? I will put it stronger, it is totally critical that the plants have air, water and nutrients. This comes from how the bed is managed, not the design of the bed - there is nothing physical about this - it is simply a question of know how or intellectual property.



There are some simple fundamental principles for wicking beds. If these are well understood and applied then the details of the construction of the wicking bed are not important.

Nutrition

Wicking beds are not about growing health plants (yes you read that right) they are about growing plants which will make us healthy.

Most growers are very pleased to produce good looking plants but to me that is missing the key point of wicking beds. Modern diet has an excess of sugars, fats and salt and in our modern society it is very difficult to avoid eating these food, they are everywhere - in the salad dressing and sauces, in breakfast cereals just everywhere.

Just stroll through your local supermarket looking at the labels and see how many foods you can buy that do not contain these deadly ingredients. They are also lacking in the key minerals and nutrients for our health. Even supermarket vegetables are lacking in these critical minerals and vitamins.

But fresh vegetables grown in nutritious soil can mitigate the effect of excess sugars and fats and provide the essential minerals, vitamins and phytonutrients. I look on wicking beds as a miniature vitamin and mineral pills factory but with a much broader spectrum than a bottle of pills.

I don't worry about the nutrients that make the plants look good (nitrogen makes plants grow like a rocket – but they are pretty useless as a food source).

I focus on getting the nutrients into the plant that I - as a human being need. Plants simply do not need some minerals like selenium and iodine. They are like me with most apps on my smart phone – I have no idea what to do with them.

Plants need others minerals - like magnesium, zinc and but only in minute quantities. The plants look great with just minute quantities but we as animals seriously need them and in significant quantity. These minerals and are often deficient in our modern diet and are a source of some health problems.

It may seem simple - just add the needed minerals - but it is not so simple.

We have trillions of bacteria in our guts (many more than the number of cells in our body). These bacteria break down our food into a solution containing nutrients which enter our blood stream and feed our bodies. If we did not have these bacteria to digest our food we would simply starve to death.

Plants are the same - they need soil biology to break down nutrients into a solution which can be taken up by the roots. Many people don't like to think about bacteria and soil biology - they are dirty and yukky and do us harm. Wrong - we are a living creatures which are totally dependent on the complex world of biology.

People could think I am a little extreme in my condemnation of the processed food industry. I am not against profit; I can handle the top executives multimillion dollar salaries, and life of private jets and limousines. What really gets to me is that they are maiming and killing us and destroying the soil biology on which all human life depends in the process of getting rich.

If you think that food just comes in pretty red and yellow packets from Supermarkets there is nothing I can do to help you, you will just have to accept you will die fat and young.

But if you want - I can help you grow healthy food with the right nutrients. Obviously you have to add the needed nutrients; two key sources of minerals are volcanic rock dust and seaweed.

Then you have to ensure your soil contains the essential biology to break down the rocks and make the nutrients available to the plant e.g. it must be in solution.

This picture shows water from the reservoir of one of my wicking baskets. I put in clear water and then collected the water from the reservoir which you can see is lightly coloured in the first bucket on the right. The second bucket contains water which is a deeper yellow taken later. The last bucket is really dark and is full of nutrients and life including some pretty weird creatures - some good some bad. Essentially this is a compost tea made from the compost and minerals I add to my soil.

I doubt if I could make a fortune by putting it in a can and calling it *black cow* but plants love it and it is infinitely more nutritious than *red bull*.

I admit it looks pretty gruesome but it is the raw material which the plants will convert into healthy food for us. Whether we like it or not we are just one part and totally dependent on a complex system which can be pretty yukky and we call nature.

Second let the roots breath

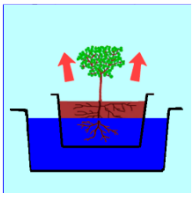
This is probably the most neglected part of wicking bed technology. In fact when I first started playing with wicking beds the experts told me it would never work because the water would turn putrid.

Plants are highly sophisticated chemical factories producing the most amazing range of chemicals. There roots emit various gases, like ethylene which are growth inhibitors, so that gas must be expelled, and they need fresh air - they need to breath.

Plants will die if they are immersed in water for too long, but the water does not kill them - they drown just like we do - it's not the water that kills them it's the lack of air. (Apart from a few specialist plants like rice, mangroves, Kang Kong etc.)

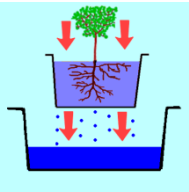
Gases can diffuse through the soil - this is one reason why it is best to avoid surface watering as far as possible so the top layers of soil are dry and permeable. But often it is better to increase the air flow to the roots.

Deep cycle irrigation works fine. The bed is thoroughly wetted out then the plants allowed to suck up the water until the water level has dropped right down. The worst thing you can do is keep on topping up with water all the time - that's a sure fire way of making the bed go putrid.



But undoubtedly flood and drain is the most effective way to irrigate.

Just take a flower pot and immerse in a tank of water and watch the bubbles. That is stale air being expelled from the soil.



Now lift the flower pot out of the water and you will see the water draining out. Fresh air is sucked in as the water drains out.

The entire bed can be flooded and the water allowed to drain away. I use soils very rich in organic matter so the water turns into a compost tea.

Having a cycle in which the roots are flooded in compost tea, which expels all the old stale air and then the water is allowed to drain away is the most effective way of watering.

I said that the design of the bed is not important but getting the plumbing right is critical. I like to design my beds to they can be totally flooded and drained at my will. I wish other people out there promoting wicking beds really understood just how beneficial the flood and drain cycle is. It is a core concept in my wicking bed system.

Learning from failures

Flood and drain has other benefits which was recently bought home to me. I am always experimenting with different system and like most experiments there are lots of failures. I had a serious failure with the plants dying and I was not sure what the problem was but I did not want to waste my dying plants. So I gave them several cycles of flood and drain (which is very easy to do in my wicking baskets).

On the first flood I noticed a mass of little caterpillars and other bugs escaping the water by coming to the surface. I introduced them to Mr. Nippy fingers and then Mr. Pyrethrum and within a few days the plants were growing again.

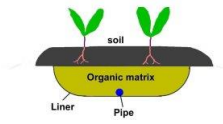
I am now trialling the flood and drain system in my wicking baskets by simply lifting the basket out so it can drain and filling the water container from a hose. As I now have approaching 100 wicking baskets in my trials this is also time saving.

Have no doubt flood and drain really works.

So this brings me to the critical part of wicking bed technology, don't worry about what box you use, may be a little about the plumbing but focus on key to success in wicking bed - the soil.

Examples of large, small and medium wicking beds

Large beds



The easiest way of making a large wicking bed is the open style bed. They are dead simple and cheap to make. Make a trench, line with plastic, place a filler pipe along the base and backfill (including some compost). I have built them up to 50 metre long but it is probably best to keep them to 20 metres.

One big advantage of the open style bed it that it is open for the biology to enter the bed. I use them as a way of growing my soil (see later).

Because I am using them to harvest nutrients and soil biology I grow a number of plants which are soil generators, (examples are Senna Alata, Queensland Arrow root and Comfrey) with deep roots to suck up nutrients from deep below and to encourage soil biology and provide green matter for compost.

I don't want to dig the soil and destroy the biology so I grow plants which are tough and will outgrow weeds (Egyptian Spinach, Kang Kong, Cherry Tomatoes, Amaranth, Pumpkin etc). These self-seed and required virtually no maintenance and provide a base supply of green vegetables for virtually zero work.

I am continuously adding compost material to the bed

As the aim is to grow the biology the soil is left undisturbed, but plants like pumpkins can escape

I leave the main leaves to provide energy and just harvest the young shoots

It is impossible to drain a large bed like this directly so I grow thirsty plants which act as pumps, but with no maintenance.

People often ask me how to implement the flood and drain system and they are obviously thinking of a complex plumbing system with pumps and limits switches etc. Now I am a lazy SOB so am always looking for the easiest way of doing things. What can be more lazy than growing a plant like Kang Kong, flooding the bed then allowing the Kang Kong to suck out all the water for you while you sit on the veranda having a cold one then come lunch time nip down to the bed and gather a few fresh leaves from the Kang Kong.

Tell me marketing experts out there - why is it so difficult to persuade people to be lazy?

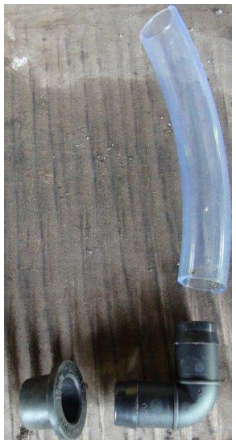
For me the key benefit of these large beds is to grow the soil biology for smaller closed beds.

Medium Beds

Medium beds can be made from tote boxes. I use the flood and drain system to aerate the soil so use the adjustable sight tube which can be adjusted to control the water level. I fill the entire box with an open soil (see my section on Wickimix later) with a high pore content. I never use

the cloth or stone system, my high pore soil hold more water than stones and allows the roots to penetrate to the base of the box and suck out all the water. Using a high porosity soil is simpler, cheaper, avoids the water going stagnant and the plants grow better.

Tell me Mr. Marketing expert - why do some people do things in the most expensive and difficult way when they don't work as well? I must be really getting out of touch with the modern world. I can't understand why people go to a restaurant with friends, take selfies of themselves and email to the person sitting next to them and I cannot understand why people use stones and cloth.



The drain tube is made from fitting readily available from hardware stores. The easiest way to make the hole is to heat up a metal pipe; I use a bit from my socket set, and just melt the plastic. This is much stronger and quicker than drilling which can crack the plastic.

I will periodically flood the box by attaching a hose to the sight tube, the water pressure will break up the soil, the water pressure can actually lift the soil in the box like a hydraulic jack.

The easiest way of digging I know.

Small beds

It is great having a garden to play in but many people now live in apartments. My aim is that everyone can enjoy the health benefits of home fresh, nutritious home grown food.

I wanted a system that could be used on a veranda or patio. Hence I developed the wicking basket system.

I wanted a system that can be used by people with little space, time or gardening skills so I normally supply the baskets already filled with soil so all the user has to do is seed and water.

They can be filled with water through the filler pipe, but to water I often remove the inner basket and fill directly with a hose, as I do have almost a hundred baskets I am using in my experiments.

As the flood and drain system gives the best growth (and insect control) I have been experimenting with an automated system. I have a couple of bucket linked with a hose. A take the baskets out of its home bucket and place in another buckets which is raised. Then I lower this bucket and the water (well water and nutrients) flood the basket right to the top. I then lift the bucket so all the water drains out, fill the home bucket and replace the basket.

Place the home bucket on a bench

transfer basket to filler bucket, then place bucket on floor

Wait until the water is comes to the surface

Raise the bucket back to the bench, let it drain

Partially fill the home bucket and transfer basket

Maybe not ideal for just one basket but if you have a lot like me it is really easy and certainly give that ideal action of flooding and draining the roots with a high nutrient mix.

I have been experimenting for soil for decades, let me introduce you to my latest development – a soil specifically designed for wicking beds.

Wickimix ®– soil for wicking beds

Soil is the single most important part of a wicking bed - but the requirements for a wicking bed soil are very different to a general purpose soil.

You could just nip down to the local supermarket and buy a bag or three of potting mix and the plants would grow quite happily into good looking plants. This is certainly the easiest and cheapest way of filling a wicking bed. It will give you good looking plants but they won't be high nutrient plants.

But my aim (and hopefully your aim) is to grow plants with the maximum nutrient contents - that's minerals, vitamins and those elusive phytochemicals which are important for health. This is a bit more complex and expensive than just buying a bag of regular soil mix.

Unfortunately getting the key minerals into the plant is not as straight forward as adding minerals and fertiliser to the soil. I could simply say you need minerals and soil biology to make them available to the plants but I think it is must better to explain how the system that nature has developed actually works.

The synergistic triplet

Plants have not evolved in isolation – they evolved in conjunction with both soil biology and animals in a complex synergistic relationship. (Synergistic means working together for the benefit of everyone - just like the directors of food processing companies and our Politician's do).

Plant do one thing superbly well - and we all depend on this ability. They take carbon dioxide from the atmosphere and extract the hydrogen molecules from water and combine then together to create complex hydrocarbons.

These hydrocarbons are the energy source which power the whole cycle. If plants did not do this you would not be reading this article so give them a friendly smile.

The bulk of a plant's mass is created from this carbon dioxide and water, only a very small proportion of the plants mass come from the soil but what they do extract is the minerals, which enable this whole process of photosynthesis to work.

But plants can only take up minerals which are in solution - plants simply cannot extract the critical minerals like calcium, zinc, potassium, magnesium etc. from insoluble rocks. If any of these minerals happened to be available as a solution then they are likely to be washed away in the next rain storm.

Plants and soil biology

So the plants have chummed up with the soil biology in the deal of century (actually millenniums) in which the plants emits exudates largely carbohydrates and sugars which provide food for the soil biology - Mycorrhizal fungi is just one example. Plants also die and their decaying remains provide food for a whole range of soil biology. (Just google Elaine Ingham if you want to get stuck into the real science).

In return the soil biology is continuously dissolving the minerals - providing a steady stream of nutrients for the plants. It's a slow release process so the biology delivers breakfast, lunch and dinner to the plants on time. This is a very simple synergistic relationship and you don't have to be an ecologist to see the benefits to both parties.

Unfortunately soil biology is a mix of goodies and baddies - the conventional approach for getting rid of the baddies is sterilisation - which is very acceptable to many people who just don't like the idea of bugs - any bugs (even though we are full of bugs providing an essential service in digesting our food). But these bugs are essential to a healthy diet and this obsession with killing them all is one of the roots causes of our lack of nutrients.

In a natural environment the goodies and baddies reach a stable equilibrium - if we want to take advantage of the beneficial micro-organisms we have to learn to manage this balance.

Plants and animals

The benefits that the third group - the animals - make are far less obvious. But the fact is that animals and plants have lived and evolved together for millions of years.

Most plants cannot move about, the only exceptions I know are John Wyndam's triffids (read the book it is a classic story) and my pumpkins which have the capacity to march across my garden, immune to my attempts at control with the lawn mower.

Animals (particularly birds) provide an obvious service to the plants in transporting their seeds far and wide. Animals also provide a service in providing manure as a concentrated fertiliser and the heavy animals also provide a service by working the surface to aid seed propagation. The mutual benefits are clear.

But animals also eat plants and if I were a plant I would need some convincing that being eaten benefits me. However when I look at my mini-greens I can see a benefit. The top of the plant is chewed off (in this case by me) but the plant bounces back producing very vigorous regrowth. At the same time the plant is increasing its roots structure and hence its ability to grow.

This is a pretty steady state process, me eating and the plant regrowing (with very tasty new shoots, much more nutritious than mature leaves). But me - being human - will eventually

miss my part of the cycle and the plant will produce massive seeds heads - far more than if the plant had grown without my continuous attacks.

I think we both come away winners in the end.

So what does this mean for wicking bed soil (Wickimix ®)?

Nutrients in Wickimix®

The first part of developing a wicking bed mix is to ensure the right nutrients are in the soil. I am continuously reading descriptions of plants (often promoted as superfoods) which have some miraculous capacity to extract certain nutrients from the soil. Well it does not matter how 'super' they are - if the minerals are not in the soil in the first place there is no way that any plant can create them from nothing.

Conversely even common plants - like lettuce - cannot select what mineral they take from the soil - so growing plants, even if they do not carry the superfood label, will provide these key minerals.

In one of my previous articles (Newsletter May 2014) I explained that the minerals a plants need are different to what we need - as a more complex organism - Selenium and Iodine are examples of minerals that plants don't seem to need at all but are essential for us. We need much higher concentration of minerals such as iron and zinc than plants do.

The three main components of Wickimix® which provide these minerals are vermicast, volcanic minerals and seaweed.

Biology in Wickimix®

One of the differences between wicking bed and regular garden soil is that in a wicking bed soil biology is generally isolated from the surrounding soil so soil biology cannot readily enter the soil.

In a wicking bed soil we need to get the biology into the mix - how do we do that?

We seem to live in an era where people expect products to be made in a factory then placed in some pretty package which goes through a distribution chain and ends up on a retail shelf.

This is not the way I do it (although I have bought items like Mycorrhizal fungi to get the process going). Nature has been doing this for millennia and I follow this process by placing open mesh baskets of my Wickimix ® in baskets and placing then in special beds so the entire soil biology can migrate into the baskets.

Surface chemistry

Soils look so simple - just a pile of dirt but as it is the year of the soil we must acknowledge the complexity of soils. We may start with the minerals in the soil, then follow up introducing the soil biology to release the nutrients but the next role of soil is to hold onto the nutrients.

This is done by surface chemistry; we need to have a soil surface which can hold onto the nutrients. It's even better if the soil has a large surface area. Clay fills both roles very well, but is only needed in small quantities in the mix.

Vermiculite is another material I use which has a large surface area with the surface chemistry to hold onto nutrients until needed by the plants.

Hydrophilic and hydrophobic

But with wicking bed soil we need two fundamental features - the soil must wick (which is a question of surface chemistry and particle size) and porosity.

Soils can be either hydrophilic e.g. water loving which is exactly what we want in a wicking soil or it can be hydrophobic which means it repels water. This combination of the chemistry of the soil particles themselves and how they are coated is what holds the nutrients

For example sand is naturally hydrophilic which makes it a good material for wicking however if it has a waxy coating - as often happens in sandy soils under gum trees - it can become hydrophobic and useless as a wicking bed soil.

Many composts are hydrophilic and make good wicking soils but one of the best materials is roots, which have naturally evolved as natures water transport system.

I take advantage of this property by seeding my baskets so while they are being inoculated with the soil biology they are also developing a root mass with a very high wicking capacity.

Porosity

Another major difference between a conventional and wicking soil is porosity. Conventional soils need some porosity to provide drainage but if they are too porous any water just flows straight through and is lost (often with the nutrients).

In a wicking bed the bulk of the water is stored in the soil itself. In recent work carried out by Peter Van Beek (www.easygrowvegetables.net) he measured the water holding capacity of various soil, sand and stone mixes. He found that good soils can hold more water than the stone or sand mixes which are often used in the base of wicking beds. He found that the void content of soils could be over 50%. I have used his method to measure the water holding capacity of my Wickimix® which is over 60%. Basically it is full of holes.

How to use Wickimix®

Wickimix® can be used in existing conventional wicking beds or in my latest wicking basket system.

For the wicking baskets I am promoting the system of minigreens. In this seeds are sown at a much higher density than normal so the plants looks more like a lawn that a conventional garden bed. The plants are trimmed like a hedge providing a continuous supply of fresh green vegetables. This system has the benefits that the young leaves are much tastier than mature leaves and have a higher nutritional level.

This close planting requires a very high nutrient content in the soil and Wickimix® was developed for this high nutrient intensity.

However this high nutrient level is less important in a conventional wicking bed where plants are grown as individual plants with a much greater spacing between plants. Wickimix® is a relatively expensive product so filling the entire wicking bed with Wickimix® may be a good but expensive approach. A more economic approach is to fill the base of the wicking bed

with a mixture of compost and local loam (or clay and sand mix) preferably mixed with a proportion of Wickimix®. With an existing bed the soil can be simply left – if you have worms in your bed they will mix the soil up nicely.

A layer of Wickimix® about 10mm thick is then spread on the surface. This equates to 10 litres per square metre. Wickimix® is an excellent germinating medium.

Using a compost mix and Wickimix® which has a high organic content will mean that the soil level will drop over time so a new layer of Wickimix® will need to be added at each new germination or replanting. This is the cost of providing you with a continuous supply of minerals and nutrients.

While I am selling Wickimix® I am not doing this as a conventional business and you may like to read my note on hobiness and the method of creative commons. (www.waterright.com.au/hobiness.htm)

Product currently available

(Note Wickimix is grown rather than factory produced so availability may vary overtime).

10 Litre pack (weighs approximately 5Kg) supplied in a standard Post Office Bag. Adequate for 1 square metre.

Cost $38

40 Litre pack (weighs approximately 20Kg). Adequate for 4 square metres.

Cost $89

I can ship large quantities if needed - just contact me.

10 litre in wicking bucket. The 10 litre buckets which can be readily converted to a wicking bed by inserting a filling pipe and making a drainage hole in the side. (less in bulk). As the soil has a very high water storage capacity this makes a very effective wicking system.

Cost $48

Wicking basket. The ultimate system is the full wicking basket system in which the basket used to grow the Wickimix® sits inside the bucket. This creates a natural water reservoir increasing the time between watering and allows the basket to be removed for ease of use.

Cost of $56.

Wicking basket 6 pack. This is a good system for the keen do it yourself gardeners, the baskets nest for ease of transport but the user has to provide their own soil (or use Wickimix® as a top covering over a compost soil mix).

Cost $148