



# 5

## THINGS YOU MUST KNOW TO GROW FOOD FROM HOME



**FROM COMMERCIAL GROWERS**

[mrstacky.com.au](http://mrstacky.com.au)



# Introduction



Dear Home Gardener,

**This isn't your typical boring 'how to garden' guide.** You know, 'sunlight', 'water', 'spacing', 'fertilizer'... We'll assume you understand that stuff.

In this guide you'll learn how to **SUPERCHARGE** your garden. We're talking double, quadruple even 10 x the yields you're used to...

These 5 strategies have been developed over **20 years of residential & commercial experience** and can be used to grow food anywhere.

So read on and be inspired to grow **BIG!**



# Meet Brian, Urban Farmer (Aka Mr Stacky)



## “Gardening Runs Deep in the Veins”

From small courtyards, balconies or rural acreage, I’ve been designing systems and **growing commercially for over 20 years.**

Over this period, **I’ve learned a thing or two** about how to get incredible results growing vegetables anywhere.

My passion is **urban farming.** I love sharing my knowledge with aspiring growers and helping them live more sustainably.



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## **4 How to stop ground pests and disease without pesticides**

No need for chemical sprays

## **5 How to grow a perpetual supply of veggies**

For a large family!





# Before we start

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Before we go too deep, it's worth covering a few gardening fundamentals. We're assuming you already know this stuff, but juuuust in case.....

## 1. Full sun

Vegetable plants need lots of sun. 4-8 hours direct sun per day is optimal, but you can get away with 2-3 hours in most cases. No direct sun? Many herbs will still do fine, or low light ornamentals. Alternatively, try growing indoors with lighting instead

## 2. Know the seasons

Different vegetables grow better in different temperatures and climates. E.g. Tomatoes, Capsicum & Zucchini need warm temperature. Broccoli, Kale & Cauliflower need cooler temperature. When you buy seeds or seedlings, stick to the planting guides for your area or buy seeds that have been developed specifically for your climate conditions

## 3. Water often

We'll cover this further, but it goes without saying that you must deliver water to your plants often and it's best to deliver in small regular feeds as opposed to one big weekly watering....

## 4. Quality nutrition / growing medium

We'll also cover this further, but it's fundamental to know that the growing medium (ie. The soil) is where the magic happens. You want a medium that is porous yet will retain moisture and has the full spectrum of nutrient required for plant growth.

## 5. Tend to your plants

Comb your hands through your plants often and pick away the dying leaves. This immediately transfers energy used by the plant to the right areas. You can pick up a lot about a plant's health this way. Does it bounce back nicely when you touch it? Are there any pest and disease issues? Get up close and personal with your plants.



# 1.

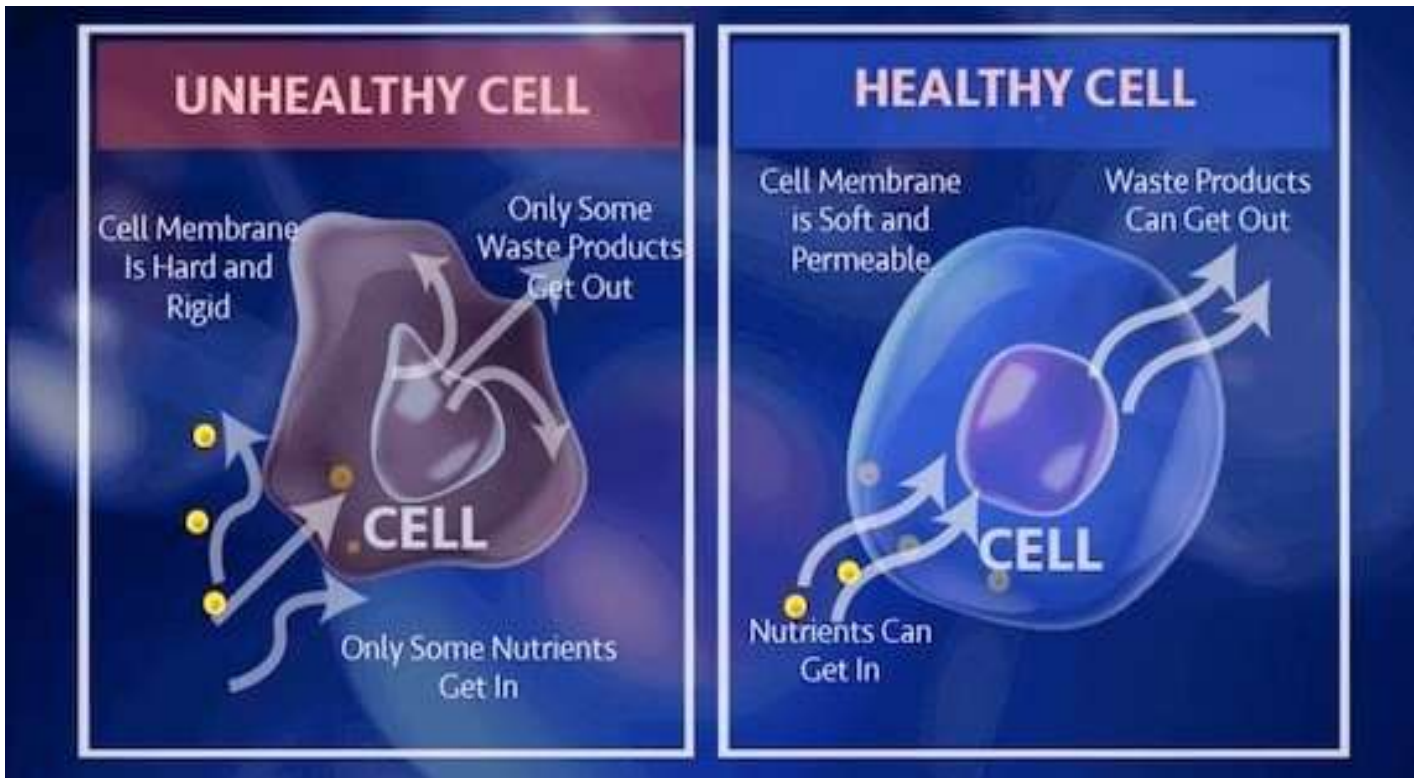
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## **The science behind robust plant growth**

How to ensure your plants reach their full genetic potential

## Plants Have an Immune System

Think about your own health. When you're not taking care of yourself are you more likely to get sick? In the natural environment, plants are constantly exposed to pathogens and disease. Healthy cells absorb nutrients and expel waste effectively.



When a plant is run down due to environmental conditions, it becomes susceptible to attack from invaders. Therefore, providing optimal growing conditions is the key to your plant staying on the front foot while producing strong, robust growth.

Luckily, when a plants immune system is run down, there are some tell tale signs that can help you correct course. Read on....





# Nutrient Deficiency Signals

This is a simple guide to help you diagnose nutrient deficiencies in your plants

## Simple PLANT DEFICIENCY Guide

### Calcium

New leaves misshapen or stunted.  
Existing leaves remain green.

NEW GROWTH

### Iron

Young leaves are yellow and white with green veins. Mature leaves are normal.

OLD GROWTH

### Nitrogen

Upper leaves are light green where lower leaves are yellow. Bottom or older leaves are yellow and shrivelled.

### Potassium

Yellowing at the tips and edges, usually in younger leaves. Dead or yellow patches develop on leaves.

### Carbon Dioxide

White deposits on leaves. Stunted growth, and plant die back.

### Manganese

Yellow spots and or elongated holes between veins.

### Phosphate

Leaves are darker than normal and loss of leaves.

### Magnesium

Lower leaves turn yellow from outside going in, veins remain green.

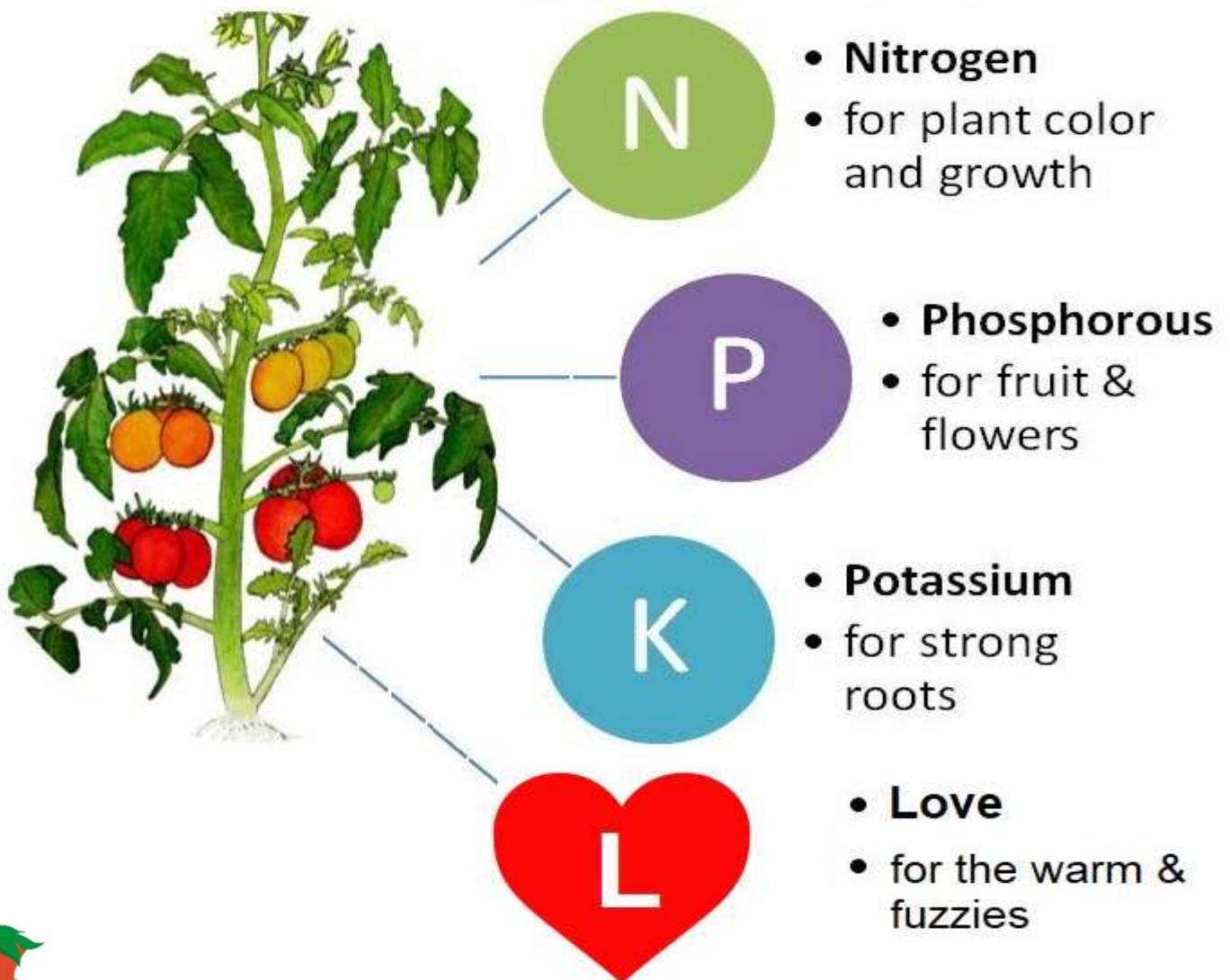


## Plant Nutrition Basics

For optimal health, plants need 3 main nutrients (Nitrogen (N), Phosphorus (P), and Potassium (K) and 9 micronutrients (Calcium, Sulphur, Magnesium, Phosphorus, Boron, Copper, Iron, Manganese & Zinc).

When you see something like 30-10-30 on a fertilizer label, this is the NPK ratio. That is the percentage of Nitrogen – Phosphorus – Potassium.

These 3 nutrients have different functions in plant growth. Eg. Nitrogen is important during the early stages of growth but less important during the bloom stage.



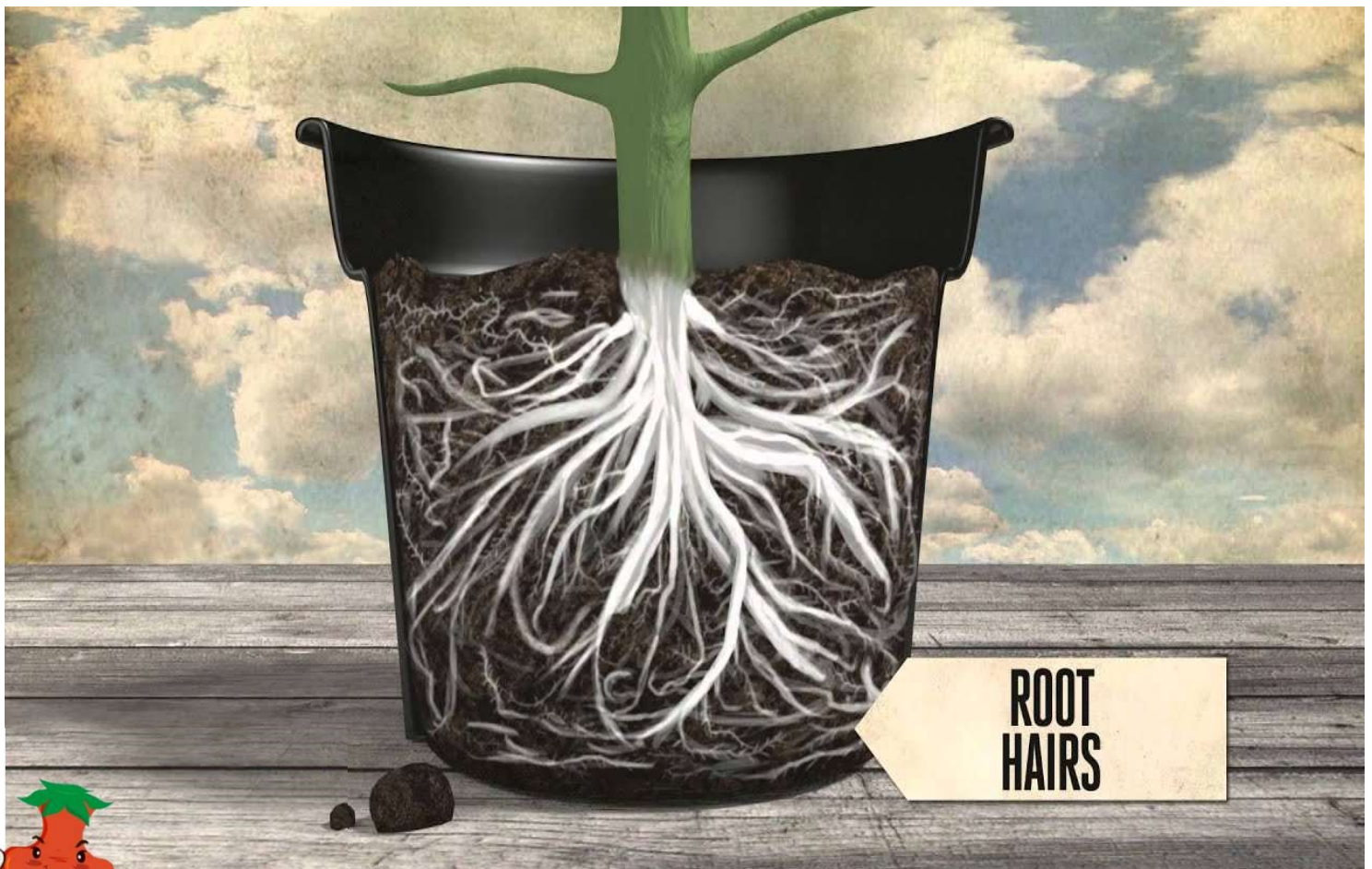
## Your Job is to Create Plant Root Heaven

We all know that plants breathe in Carbon Dioxide and breathe out oxygen, right? But did you know a plant's roots (the engine room of your plant), cannot absorb nutrient without the presence of oxygen at the root zone. Hard packed or waterlogged soils are starved of oxygen.

You want loose free draining, no pooling of water; oxygen rich growing mediums that retain moisture while providing sufficient macro and micronutrients in easy to absorb ratios.

If you get the balance right, you will create plant root heaven.

Read further to find out the best way to do this....



# 2.

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## **The Best Growing Method for Abundant Yields**

For busy people....

## Your garden is a battlefield

At a micro level, every single plant is in a life or death competition to grow faster than its neighbor. Teaming with micro organisms, your plants main aim is to maximize photosynthesis (the building block of plant growth) by receiving more sunlight than its neighbor.

To do this, the plant needs the right conditions to build its cellular immunity and assimilate the right nutrients so that it grows taller to absorb even more sunlight.

Next time you stroll through a forest, look up. The tallest and strongest trees were once tiny seedlings that managed to outgrow their competitors.



## How do you give your plant the advantage?

In biology, the **life cycle of a plant** determines the survival of a particular species.



**“It’s all about automated watering and the right growing method”**

If you’re like most busy people these days, you’re lucky if you remember to water your plants!

Yet for a plant to achieve abundant yields, it needs all the right nutrients at the right times throughout its entire life cycle.

As a home gardener, you need a growing method that eliminates the guess work with automated, repeatable and scalable processes.



## So what's the best growing method?

In a soil-based garden, a plant uses a lot of energy developing root systems in search of nutrient and water. This process is not efficient.

With today's technology we can deliver quality nutrient directly to the root zone in the right quantities at the right times. This allows plants to focus their energy on building stems, foliage and fruit.



**The method is Hydroponics!**



Wait! Before you put this in the too hard basket, today's technology is super easy, affordable and looks amazing! You just need the right set-up (see chapter 3 for more info)

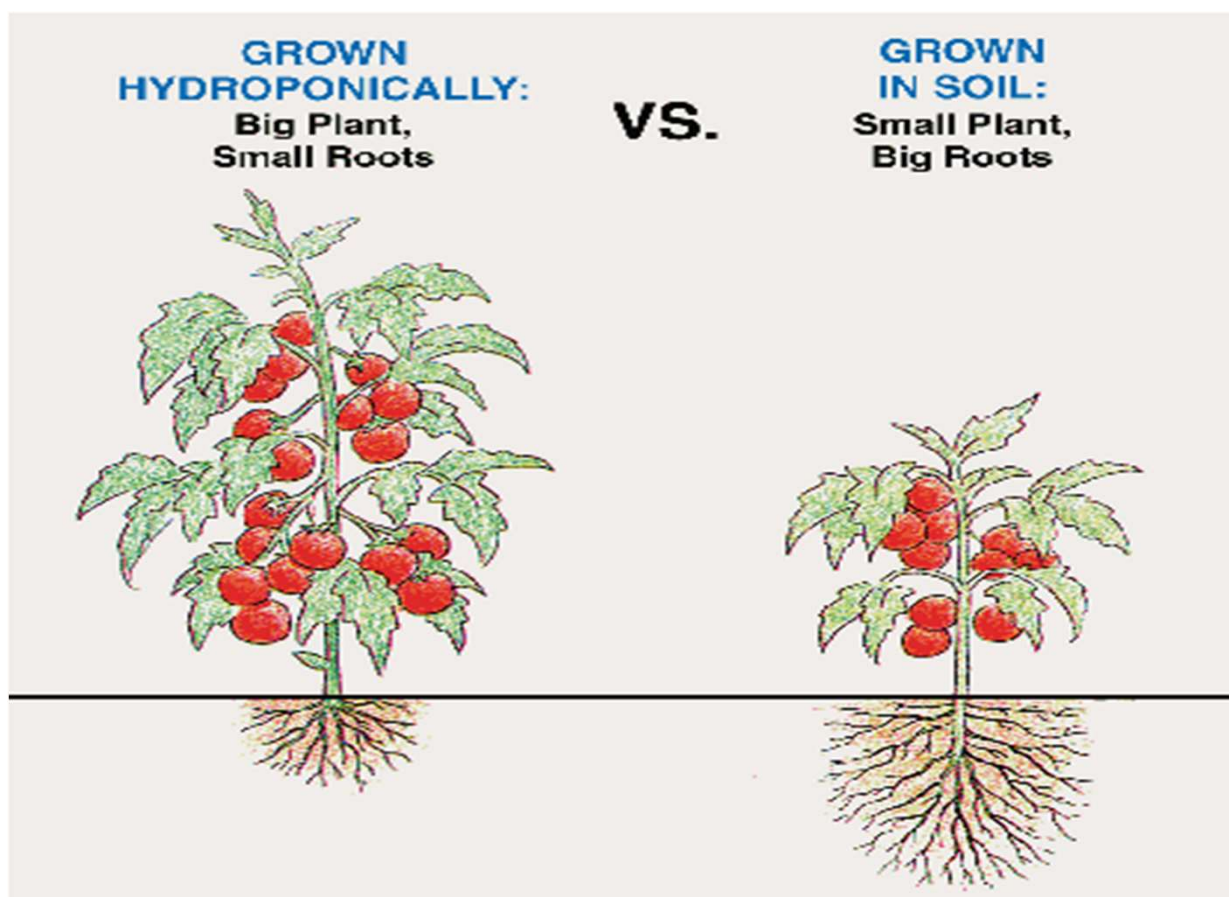
- Hydroponics is the **fastest growing sector** of the agriculture industry
- According to the UN reports on global population, plants grown hydroponically **achieved 20-25% higher yield** than traditional agriculture with productivity 2-5 times higher (<https://www.marketsandmarkets.com/>)
- The overall hydroponic market is projected **to grow at a rate of 12.1%** over the next 5 years (From 8.1 billion in 2019 to 16 billion 2025)

The hydroponic industry is thriving, and for good reason. **New technologies** have made it THE method of choice for commercial growers and this is only just starting to filter down to the home gardener.

**Plants don't need soil to grow....  
they need the nutrients in the soil!**



## Why go Hydroponic?



### Bigger, faster plant growth with higher yields

- Bigger yields. Easily 20-30% more than a garden bed
- Water saving. Up to 80% less water consumption than a garden bed
- Nutrient dense. Studies have proven equal to higher nutrient density
- Disease resistant. Less susceptibility to pests and disease attack
- Automated. Set & forget for busy people
- Affordable. Up front cost pays for itself quickly over time
- Attractive. The right set-up will look beautiful in your backyard!

With the right hydroponic set-up, you have a recipe that can be replicated to produce better results than you can possibly imagine!





# 3.

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## The #1 Thing Home Gardeners Get Wrong

And how to fix it

## The Unfortunate Home Gardening Cycle

Here's a common home gardening experience.....

- I want to grow a veggie patch! Yes let's do it! This will be awesome 😊
- Buy a pot plant, dig a garden, or construct a raised garden bed
- Add some compost or good quality soil, blood & bone etc
- Plant fresh young seedlings. So pretty 😊
- Water them in nicely.....
- Stand back in awe of your handy work!

Week 1	Week 2	Week 3	Week 4	Week 5
<p>You're watering every day</p> <p>Oh so exciting!</p> <p>It's working!</p> <p>It's working!</p>	<p>You missed a couple days of water, but no worries</p> <p>Still looking good!</p>	<p>You had a hell week at work and forgot to water for 4 days straight</p> <p>You proceed to add 4 days worth of water to compensate</p>	<p>Why is everything looking so gangly and wilted?</p> <p>Better add more water I guess?</p>	<p>Everything is dying, what did I get wrong?</p> 

The majority of gardeners either **UNDER** or **OVER** Water their gardens



## What's Going Wrong?

There's usually a bunch of stuff, but if there was one over-riding issue impacting your garden.....

# TOO MUCH OR TOO LITTLE WATER!

When you **under water** your plants you starve them of nutrition. When you **over water** your plants you starve them of oxygen, which in turn **starves them of nutrition**.

Under watering is common in garden beds where approx **80% of the hydration is absorbed by the ground!** You think you're watering enough, but unless you're providing small regular doses (ie. 3 times per day) you are very likely under-estimating your plants water needs.

Same thing in pot plants. On a hot sunny balcony, **water quickly evaporates**, leaving your plant constantly on the back foot spending more energy repairing than it is building.

Over watering is also common in pot plants. **Inevitably, you forget to water** and then you overcompensate with **too much water**. With inadequate drainage and/or soil quality, root rot sets in, killing your plant from the roots up.

This viscous cycle affects the plants immunity causing pest and disease attack. By the time you realize you've got a problem, the disease has taken hold, and the only thing left to do is **dispose of the plant** before it infects the rest of your garden.

Sound familiar?





## How to Completely Solve Over & Under Watering

Solving the over/under watering equation is a **GAME CHANGER!**

Imagine, if you simply could **never over water your plants.**

The key to solving this is in the growing medium used.

Hydroponic growing mediums are designed to ensure optimal **oxygen when fully saturated.**

When your plants roots are suspended in fresh oxygenated nutrient rich water, and then given sunlight and space to grow, that's exactly what they do....

**GROW and GROW and GROW!**

We've tried every hydroponic method out there. From simple kratky to ebb & flow, NFT, DWC, drip, drain to waste etc...

In our experience, **ONE HYDROPONIC METHOD** is by far **THE BEST** technique for the home gardener....



## The Best Solution for Home Gardeners

# COCO COIR DRIP IRRIGATION

You've probably heard of coco peat. You know, the stuff those little jiffy starter cubes are made of. **Coco Coir is organic** & made from the husk of the coconut. <https://www.mrstacky.com.au/vertical-gardens/5kg-coco-coir/>

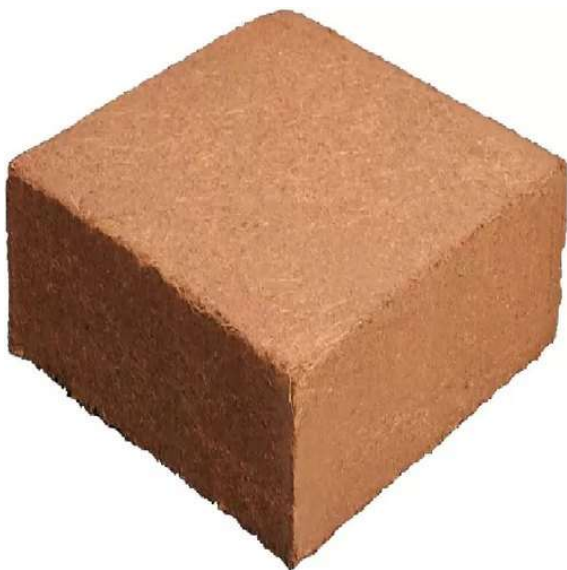
In addition to Coco's wonderfully loose, well draining, soft, fluffy & absorbent texture, it's most valued asset is it's **oxygen holding properties**.

**Even when it's fully saturated, it still holds up to 22% oxygen.**

Coco is very forgiving and **perfect for home gardeners**. Basically, the stuff just works! Once you start using it, you will not go back to soil...

Coco comes in compressed, expandable, affordable 5KG blocks.

From this



To this



## Automate your Garden

Coco Coir retains the right amount of water. Just put the garden in full sun and configure the timer to 3-4 times per day for 1 minute.

### The easiest hydroponic method

Because coco is so **absorbent**, it's like a wick, soaking up water to all areas of the planter. Because it's so **porous**, it drains all the excess water fully. Because it's **dark & dense**, it buffers against temperature & hydration variance. Because it's so **oxygenated**, you can't over water your plants!

Coco coir is **PLANT ROOT HEAVEN.**



# 4.

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## How to Stop Ground Pests and Disease

Without pesticides

## The Issue with Pesticides

Ask any home gardener why they grow their own food... You're likely to hear;

**Reduce exposure to chemical pesticides and fungicides**



**So how does the home gardener stop pests without the use of pesticides?**





## The nature of pests & disease

OK, so we've covered how to provide the **conditions for strong plant immunity** and **robust healthy plant growth**. That's the first key to prevention of pests and disease.

But no matter how healthy your plants are they will get attacked from time to time. Caterpillars, aphids, whiteflies, mites, mealybugs, beetles, thrips... the list seems endless.

Fact is many of the creepy crawlies come from **larvae under ground**. When your plants are grown in the ground, they are more susceptible to attack.

So, what's the **best way to prevent** ground pests and disease without chemical sprays?



## Raise Your Plants Off the Ground



**When you raise your garden above ground, you create a natural barrier that inhibits pest and disease attack.**

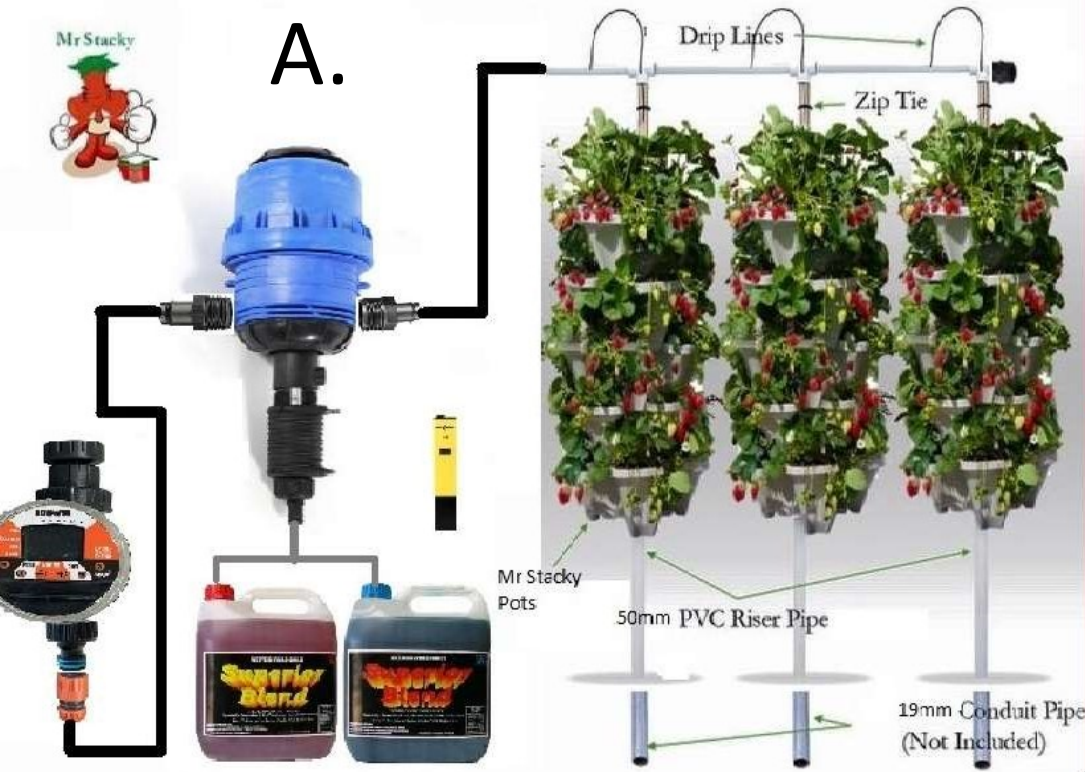
The raised garden technique is employed by virtually every hydroponic set-up as channels, poles, dutch buckets and raised infrastructure are fundamental to the design.

In the above **Tower Garden**, modular planters are filled with coco coir and stacked vertically over a center pole. **Yield quadruples** with each vertical stack. A simple drip irrigation line overhead is connected by a **fertilizer injector, electric or solar pump** feeding each tower with nutrient water. Any water run off can feed a plant at the base or be captured for recirculation.

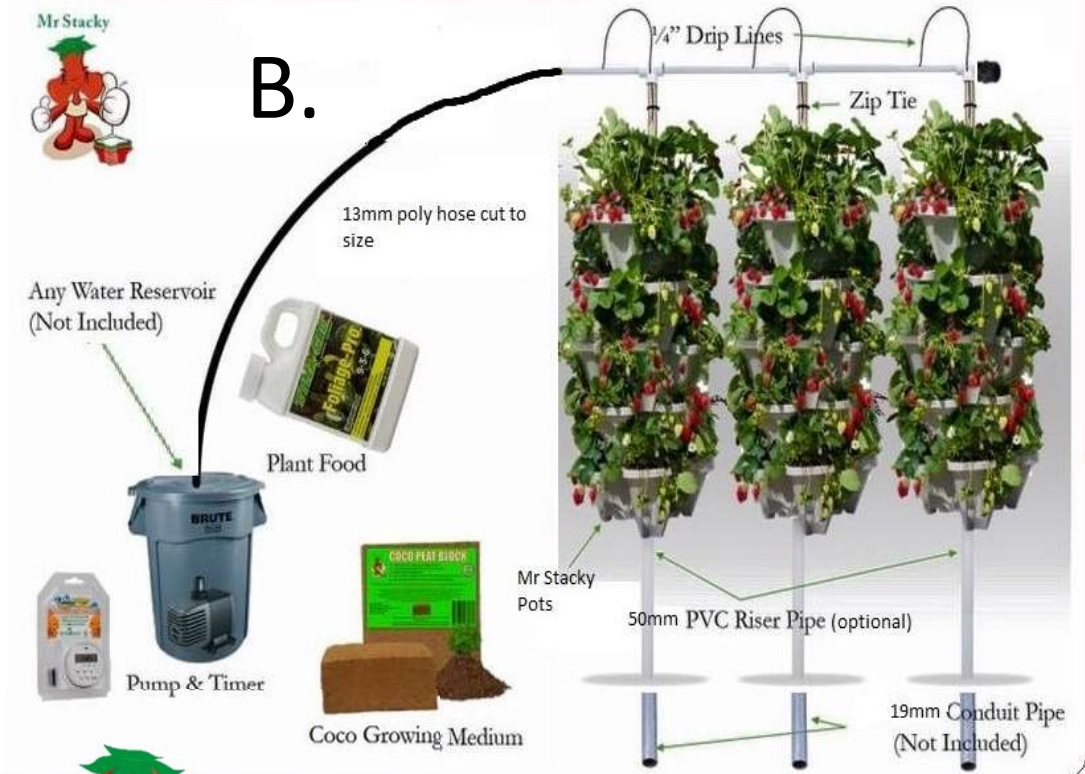


# Some Solutions

## Water Mains Powered



## Electricity Powered



## Solar Kit add-on



# 5.

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## How to Grow a Perpetual Supply of Vegetables

The Tower Garden Cultivation Method

## Sooooo many gardeners get this wrong!

If you plant everything at the same time, everything will be ready at the same time!

While it's a wonderful thing to give away fresh veggies & herbs to your friends, family and neighbors, isn't the goal to feed your own family?

For those gardeners serious about growing abundant quantities of fresh veggies year-round, you need to know how to stagger your plantings.

For the everyday garden bed, this simply means you keep some space free in your garden and then add new seeds or seedlings at regular 2-4-week intervals throughout the growing period.

The trick is ensuring enough space in the garden so that the larger plants don't steal the younger plants sun, thereby limiting their growth. Well, the technique we're about to show solves that issue as we grow vertically!

At the beginning of this book we told you we'd share tips on how to **SUPERCHARGE** your garden. Double, quadruple, even 10 x yields, remember?

Well, the following guide is THE SOLUTION. Prepare to have your mind blown!

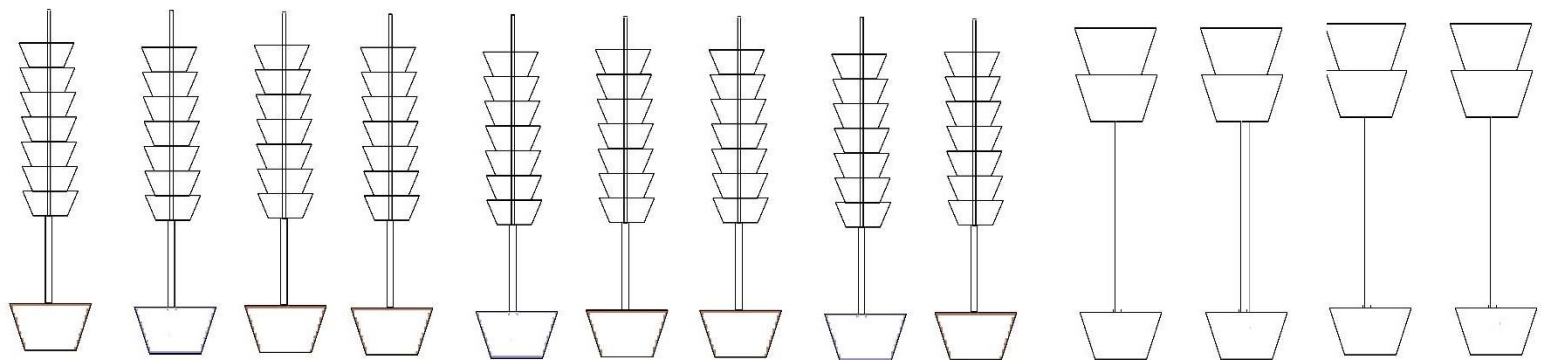


## The Perpetual Tower Garden Technique

OK, what we're about to show you is powerful stuff for serious gardeners. This is a visual month by month of what to plant when, to achieve a perpetual harvest of veggies from your backyard. First step, the logistics.

### Infrastructure Set-up

- 9 x towers with 7 medium tiers p/tower + large planter at base. Each tower is raised 600mm off the ground and spaced 1 meter apart.  
<https://www.mrstacky.com.au/vertical-gardens/9-tower-hydroponic-vertical-garden/>
- 4 x Towers with 2 large tiers p/tower + large planter at base. Each tower is raised 1500mm off the ground and spaced 1 meter apart.  
<https://www.mrstacky.com.au/vertical-gardens/hydroponic-tomato-tower-kit/>



Example 13 tower set-up

### Nutrient Feeding Set-up

- A single fertilizer injector (Water Powered Proportional Pump) is installed between the water mains and the garden. <https://www.mrstacky.com.au/vertical-gardens/fertilizer-injector/>
- A battery powered tap timer is connected into the water mains
- Standard irrigation hosing runs from the tap timer through the injector, then runs ovetop of each tower with dripper line to the top tier.
- Each tower has an adjustable dripper to regulate various flows per tower.
- This configuration is fully automated and allows configuration depending on plant types, climate and local conditions.

# The Perpetual Tower Garden Technique

## Growing Medium

- Each planter is filled with 80/20 mixture of coco coir & perlite. The perlite helps add oxygen to the mixture but is not 100% necessary.

## Nutrient & Feeding Regime

- All purpose hydroponic nutrient is mixed weekly and placed under the fertilizer injector and configured to provide an EC 1.5 to each tower.  
<https://www.mrstacky.com.au/vertical-gardens/hydroponic-grow-nutrient/>
- This will later be increased to EC2.5 at later stage
- The tap timer is configured to 3 x 1 minute on cycles each day.
- The adjustable drippers at the top of each tower are used to increase or decrease flow depending on each towers needs. Drips from the bottom tier of each tower will feed the base plants below.

## Garden Placement

- This set-up is ideally placed in a wide-open area or against a wall that is north facing and receives min 4-6 hours of direct sunlight each day.



## Plant Types

- Plant types have been categorized as follows:
  - **Green Leafies** e.g. Lettuces, spinach, bok choy, beetroot, micro-greens, basil, parsley, dill, mint, shallots, chives etc
  - **Climbers** e.g. climbing beans, dwarf beans, snow peas, peas etc
  - **Large Vines** e.g. rock melon, watermelon, pumpkin, zucchini etc
  - **Other/Fruiters** e.g. Capsicum, Eggplant, Celery, Chillies etc
  - **Tomato/Cucumber** Tomatoes and cucumber
  - **Brasicas** e.g. Kale, Broccoli, Cauliflower, Cabbage etc

### How to use the Guide

- The following guide is based on Australian Growing Season in temperate growing region of South East Australia and Northern NSW for Australian Growing Calendar <http://www.cannabisgrowing.com.au/cannabis-grow-guide/outdoor-growing/australia-grow-calendars/>
- Each growing type is color coded
- Colors of each tower represent the plant types to sow for that month
- To sow, simply add seeds into the coco coir (no need to transplant)  
How to sow from seed <https://www.youtube.com/watch?v=CSIZU2X2ooM&feature=youtu.be>
- White means leave empty (do not sow in that month)
- Each layer has 4 planting zones (clovers). Add 2-10 seeds per clover, then thin out the weakest plant letting the strongest mature
- **It's recommended to plant the same type of plant in downward rows instead of horizontal layers.**
- For tomatoes and cucumbers, simply let the vines hang down

\* Please note that some plant types within the same configuration, do better in cooler months. E.g. Snow peas, lettuce, bok choy & spinach prefer the spring/autumn/winter months as opposed to the middle of summer, where as zucchini, cucumber, tomatoes, capsicum and watermelon love the heat... Ensure you follow the planting guides from your seed manufacturer.





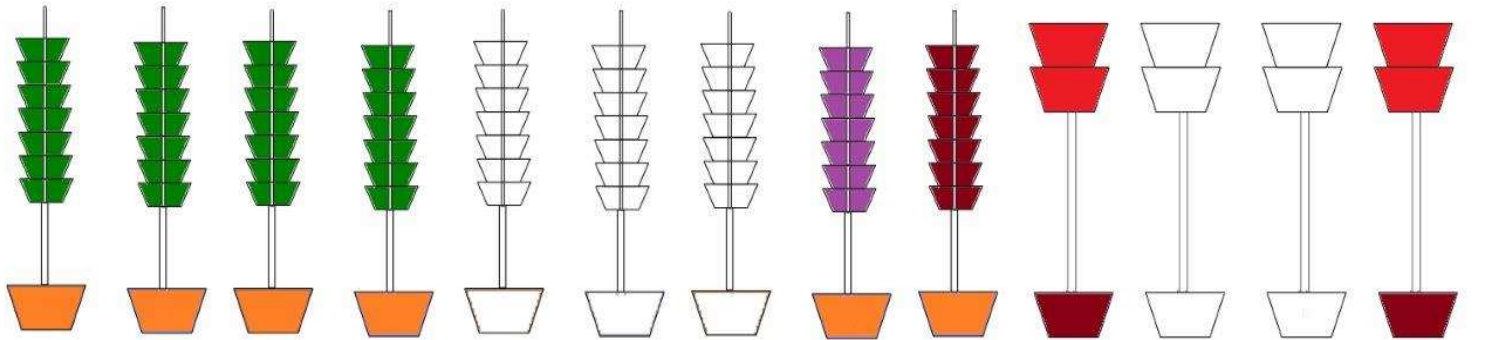
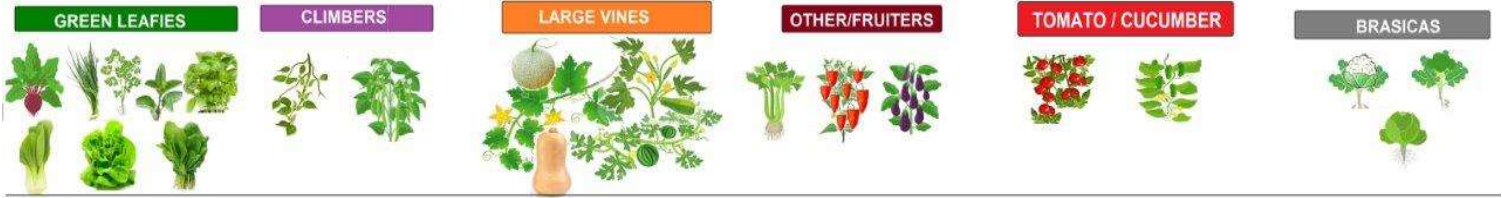
# The Perpetual Tower Garden Technique

## SEPTEMBER



How to Grow a Perpetual Supply of Vegetables from Home

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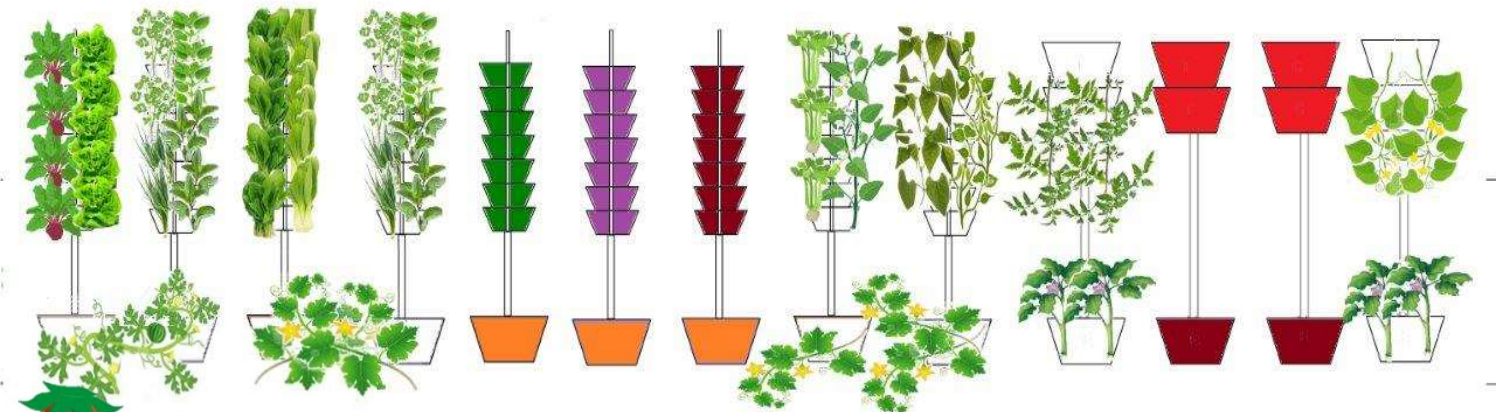
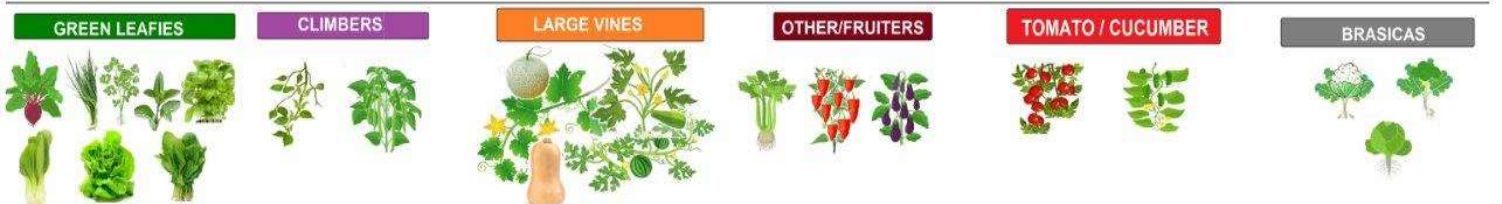


## OCTOBER



How to Grow a Perpetual Supply of Vegetables from Home

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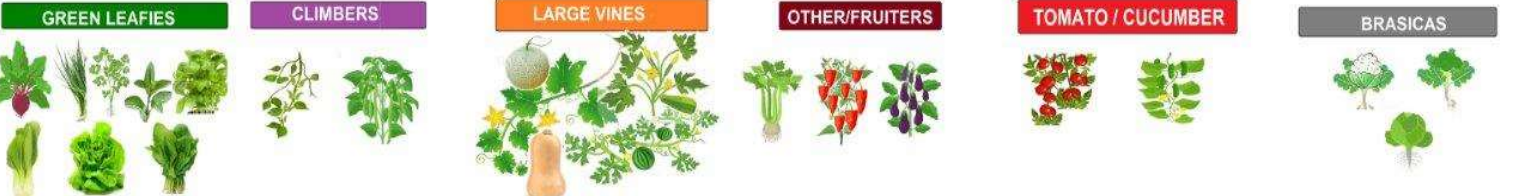
# The Perpetual Tower Garden Technique

## NOVEMBER

How to Grow a Perpetual Supply of Vegetables from Home



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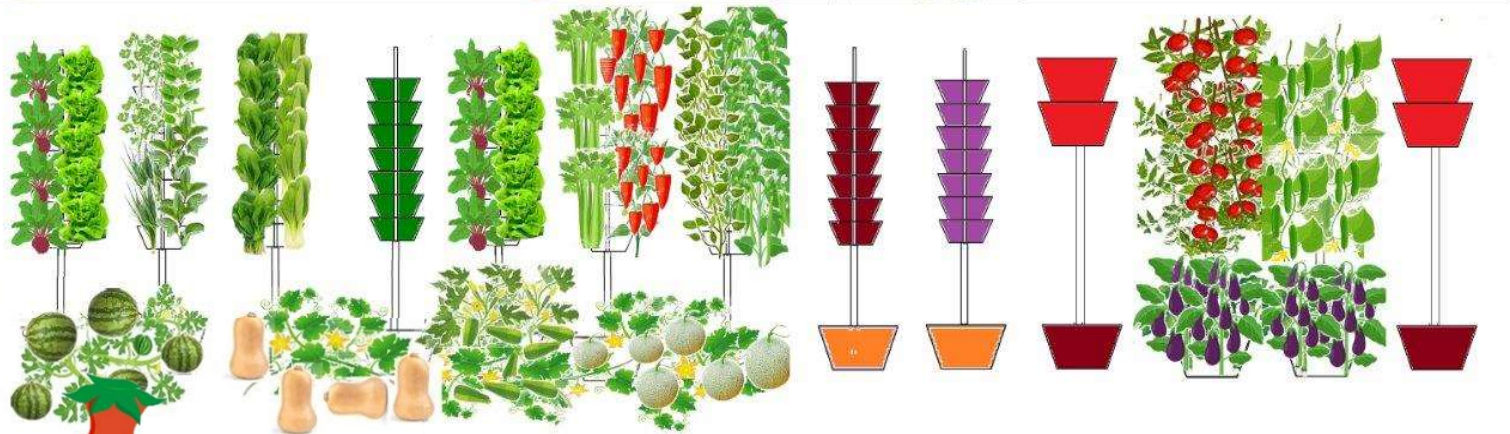
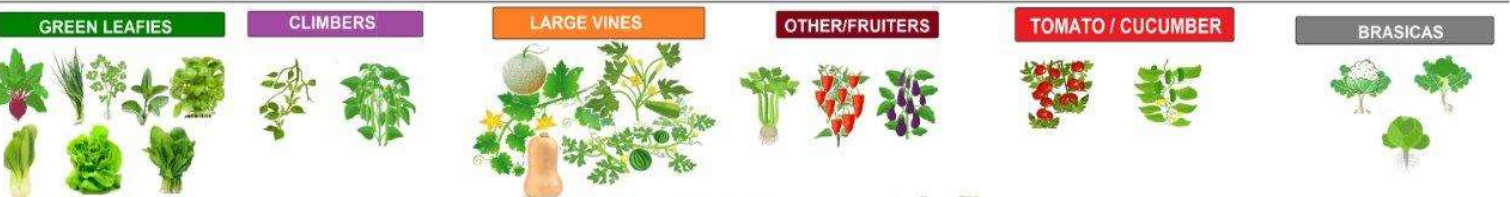


## DECEMBER

How to Grow a Perpetual Supply of Vegetables from Home



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# The Perpetual Tower Garden Technique

## JANUARY



How to Grow a Perpetual Supply of Vegetables from Home

SPRING | SUMMER | AUTUMN | WINTER  
 | SEP | OCT | NOV | DEC | **JAN** | FEB | MAR | APR | MAY | JUN | JUL | AUG |

GREEN LEAFIES	CLIMBERS	LARGE VINES	OTHER/FRUITERS	TOMATO / CUCUMBER	BRASICAS

## FEBRUARY



How to Grow a Perpetual Supply of Vegetables from Home

SPRING | SUMMER | AUTUMN | WINTER  
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GREEN LEAFIES	CLIMBERS	LARGE VINES	OTHER/FRUITERS	TOMATO / CUCUMBER	BRASICAS



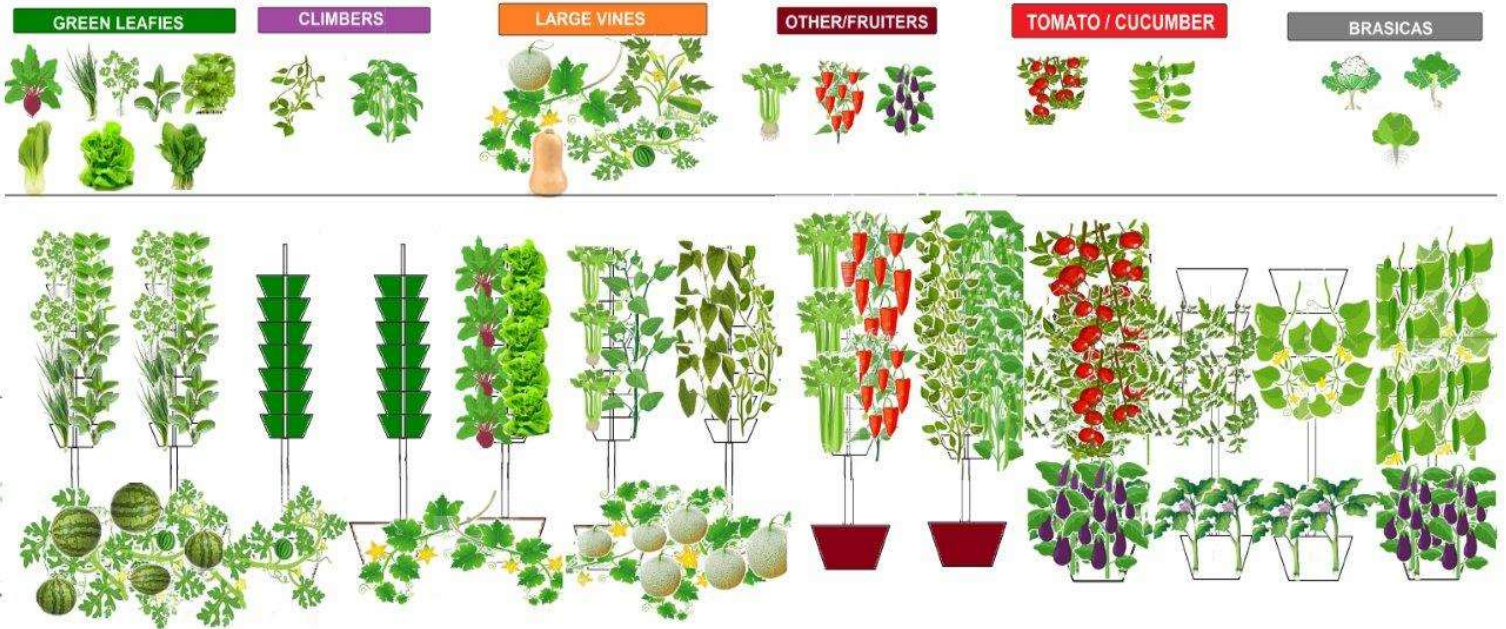
# The Perpetual Tower Garden Technique

## MARCH



How to Grow a Perpetual Supply of Vegetables from Home

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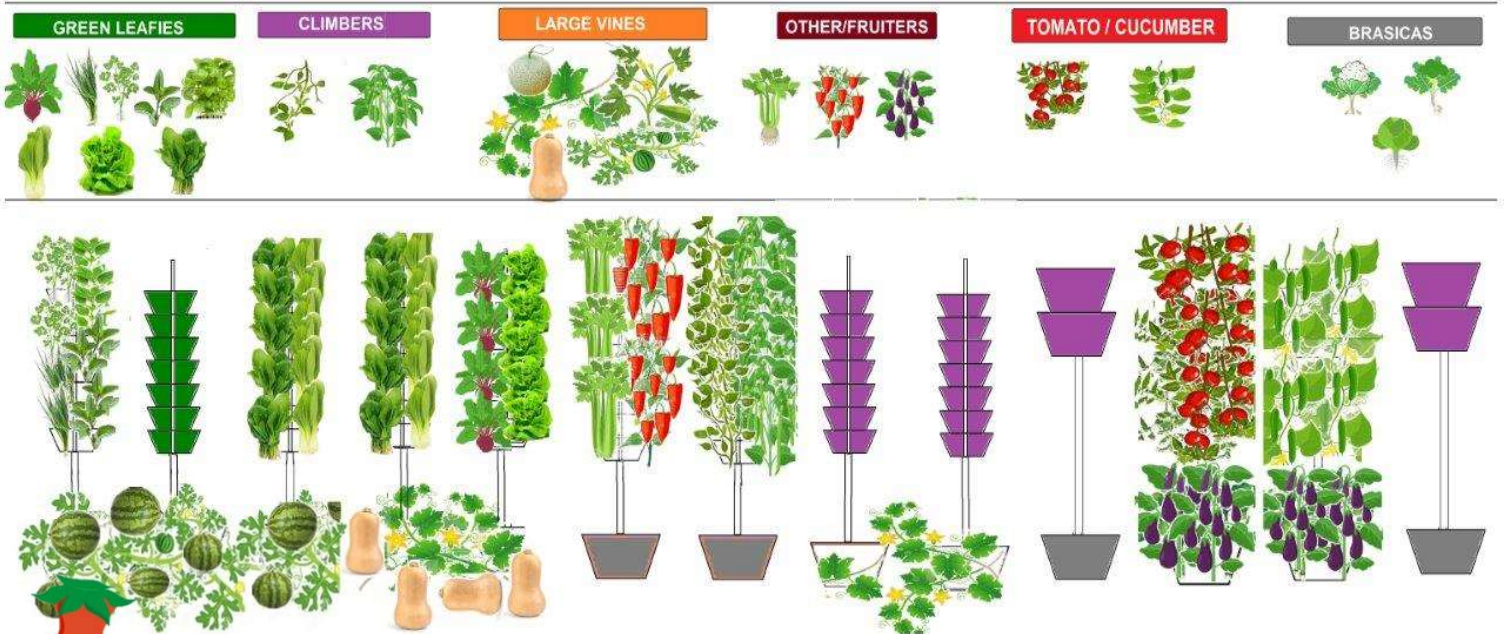


## APRIL



How to Grow a Perpetual Supply of Vegetables from Home

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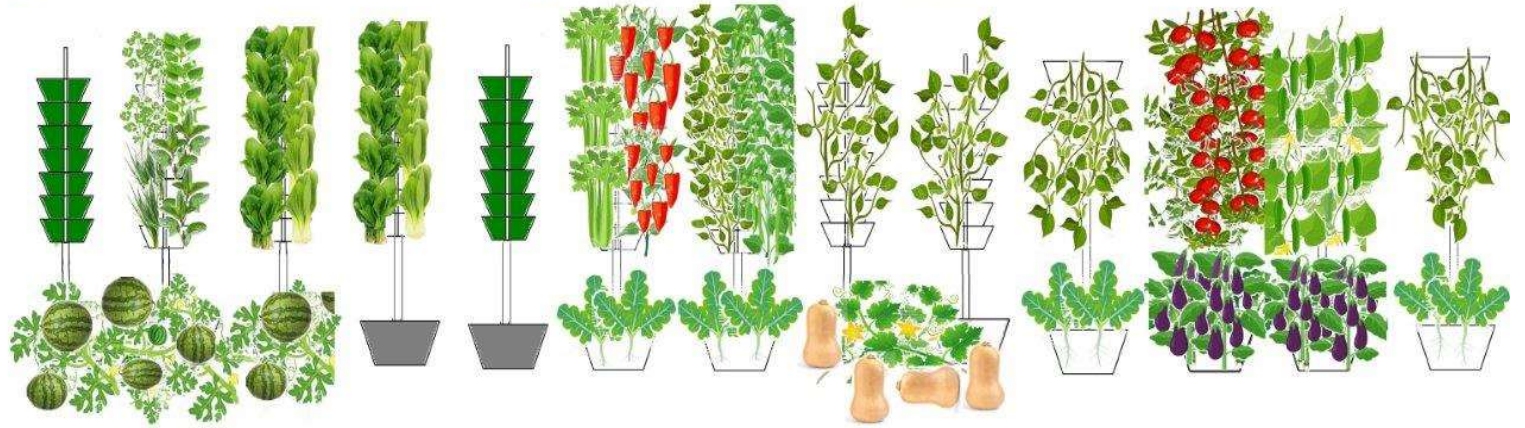
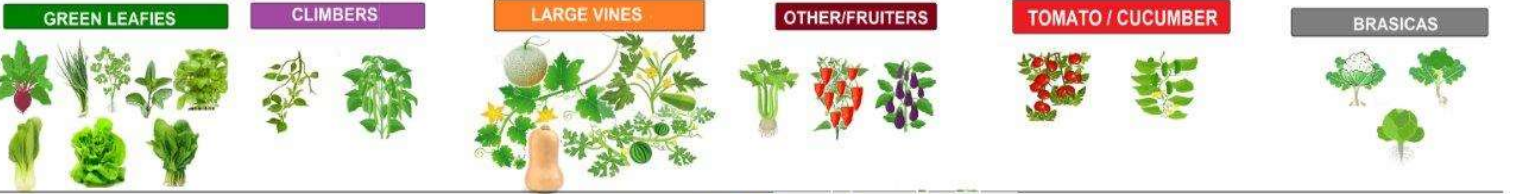
# The Perpetual Tower Garden Technique

## MAY



How to Grow a Perpetual Supply of Vegetables from Home

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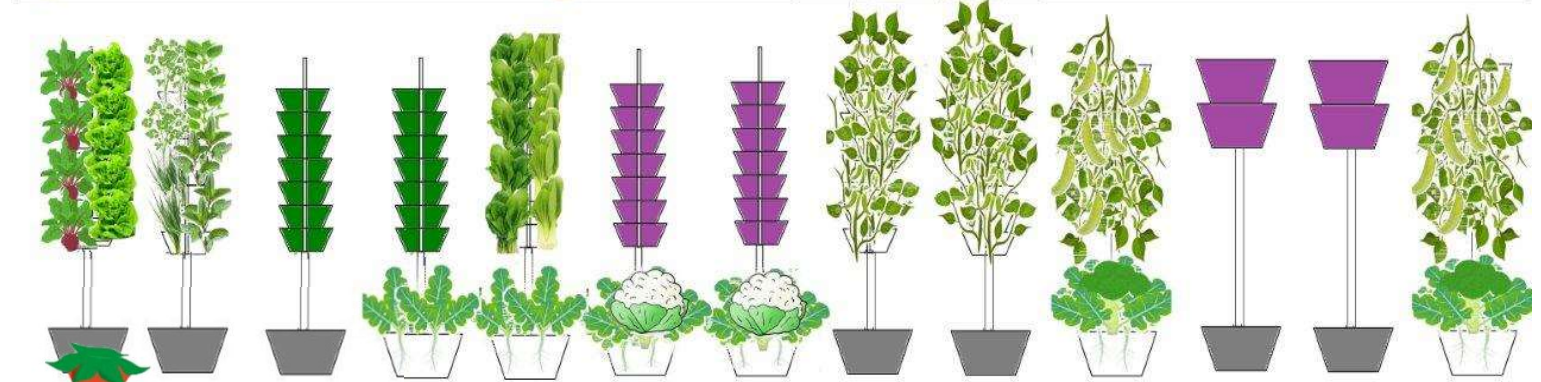
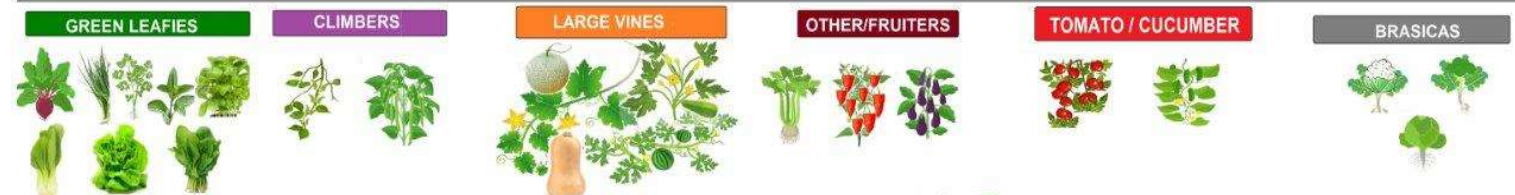


## JUN



How to Grow a Perpetual Supply of Vegetables from Home

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SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	<b>JUN</b>	JUL	AUG



# The Perpetual Tower Garden Technique

## JULY

Mr Stacky

How to Grow a Perpetual Supply of Vegetables from Home

SPRING | SUMMER | AUTUMN | WINTER  
 | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | **JUL** | AUG |

GREEN LEAFIES	CLIMBERS	LARGE VINES	OTHER/FRUITERS	TOMATO / CUCUMBER	BRASICAS

## AUGUST

Mr Stacky

How to Grow a Perpetual Supply of Vegetables from Home

SPRING | SUMMER | AUTUMN | WINTER  
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GREEN LEAFIES	CLIMBERS	LARGE VINES	OTHER/FRUITERS	TOMATO / CUCUMBER	BRASICAS



## Thanks for reading!

Hopefully, you found this content inspiring and informative.

For more info about how you can grow a perpetual supply of fresh vegetables from your backyard see the following resources.

### Mr Stacky FAQ

<https://www.mrstacky.com.au/frequently-asked-questions-mr-stacky/>

### 9 Tower DIY Hydroponic Kit

<https://www.mrstacky.com.au/vertical-gardens/9-tower-hydroponic-vertical-garden/>

### 3 Tower DIY Hydroponic Kit

<https://www.mrstacky.com.au/vertical-gardens/80-plant-diy-hydroponics/>

### Tomato Tower Kit

<https://www.mrstacky.com.au/vertical-gardens/hydroponic-tomato-tower-kit/>

### Recirculating Smart Farm System

<https://www.mrstacky.com.au/vertical-gardens/hydroponic-smart-farm-20/>

### Fertilizer Injector

<https://www.mrstacky.com.au/vertical-gardens/fertilizer-injector/>

### Why Hydroponics

<https://www.mrstacky.com.au/hydroponic-gardening-information/hydroponics-vs-soil/>

