ISSUE 002

ZIM INTERNET REVIEW

September 2020

Information found online.

Register a business in Zimbabwe

Highlight on Local Websites

Local YouTube Channels

List of Zimbabwean Publications

Information about Hydroponic Systems

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INTRODUCTION

This issue of Zim Internet Review focuses on growing food using hydroponic systems. Hydroponics offers a way to grow food faster, with less water and requires less space. In Zimbabwe 160 Hydro Farm can supply equipment and supplies.

Growing at least some of your food at home can help you have healthier food and it can contribute to reducing your overall food bill, a penny saved is a penny earned.
With the increase of markets in Zimbabwe, this offers another way for every household to potentially increase income.

There are a variety of ways to grow food and while this issue will focus on hydroponics, if the options do not fit your requirements it is worth looking into other options to increase your food security.

If you know of anyone who supplies hydroponic or similar equipment or supplies, please share it in our group for everyone, the links are on the contents page.

Community input is greatly appreciated, if there is anything that you think would be beneficial to highlight, please let us know.

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Register Your Business

Registering a Company in Zimbabwe

Registering a company is a requirement in order to trade legally in Zimbabwe.

The simplest way to go about this is to utilize a company that offers assistance with the registration process. Here is a list of companies that can register your company for you.

Company Registrations

www.registeracompany.co.zw

Website

Zimbabwe Company Registrations

www.zimbabwecompaniesregistry.org

Website

Company Registration 247

www.companyregistration247.com

Website

M&J Consultants

www.mjconsultants.co.zw

Website

Angel & Walt Company Registrations

www.companyregistrations.co.zw

Website

Agileroc Consultancy

www.agileroc.co.zw

Website

Limitless

www.limitless.co.zw

Website

On the above websites you can find out more information about registration requirements and costs involved.

Interesting Websites

ZimLibrary

6281 Nicoz Diamond Road,
Zimre Park, Ruwa.
+242 200 5382
+263 778 877 510
info@zimlibrary.org.zw

ZimLibrary provides access to books to the whole of Zimbabwe. We provide door to door delivery of books and mobile library services as well as the physical space to people in Ruwa town and surroundings. We also support children to improve their reading skills through the reading clubs and the peer tutoring program. To ensure every child has access to books in Zimbabwe. Access to reading materials is the key, not necessarily ownership of books.

Website **Facebook**

Find a Quote

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no hassle . no fuss

Website **Facebook**

Small and Medium Enterprises Association of Zimbabwe

SMEA zw
Small and Medium Enterprises Association of Zimbabwe

Our mandate is to help start-ups, small and medium-sized businesses to grow into large corporations. We also work with large corporations, development agencies & partners, and other organisations interested in working with SMEs (affiliates).

Website **Facebook**

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Local YouTube channels are slowly growing, these are the ones I managed to find that are Zimbabwe based.

263Chat

https://www.youtube.com/c/263chat/

3-mob.com

https://www.youtube.com/c/3mobcom/

Antelope Park

https://www.youtube.com/user/antelopeparkzimbabwe/

Area 46 Productions

https://www.youtube.com/channel/UCSnrb9UMNAMMHfdwzLoNvhw

Battle of the Chefs

https://www.youtube.com/c/Battlechefs/

Dexter Staples - Sharing Knowledge

https://www.youtube.com/c/DexterStaples/

Impact Hub Harare

https://www.youtube.com/channel/UC3iA8Gnzu6-3Kez4XKCVqOw

My TasteBuds TV

https://www.youtube.com/c/MyTasteBudsTV/

TechZim

https://www.youtube.com/c/TechzimCoZw

ZiFM Stereo

https://www.youtube.com/c/ZiFMStereoRadio/

Zimbabwe Yadzoka

https://www.youtube.com/channel/UCCzprabDEE431yMIJ3ylItw/

Zimbo Kitchen

https://www.youtube.com/user/zimbokitchen/

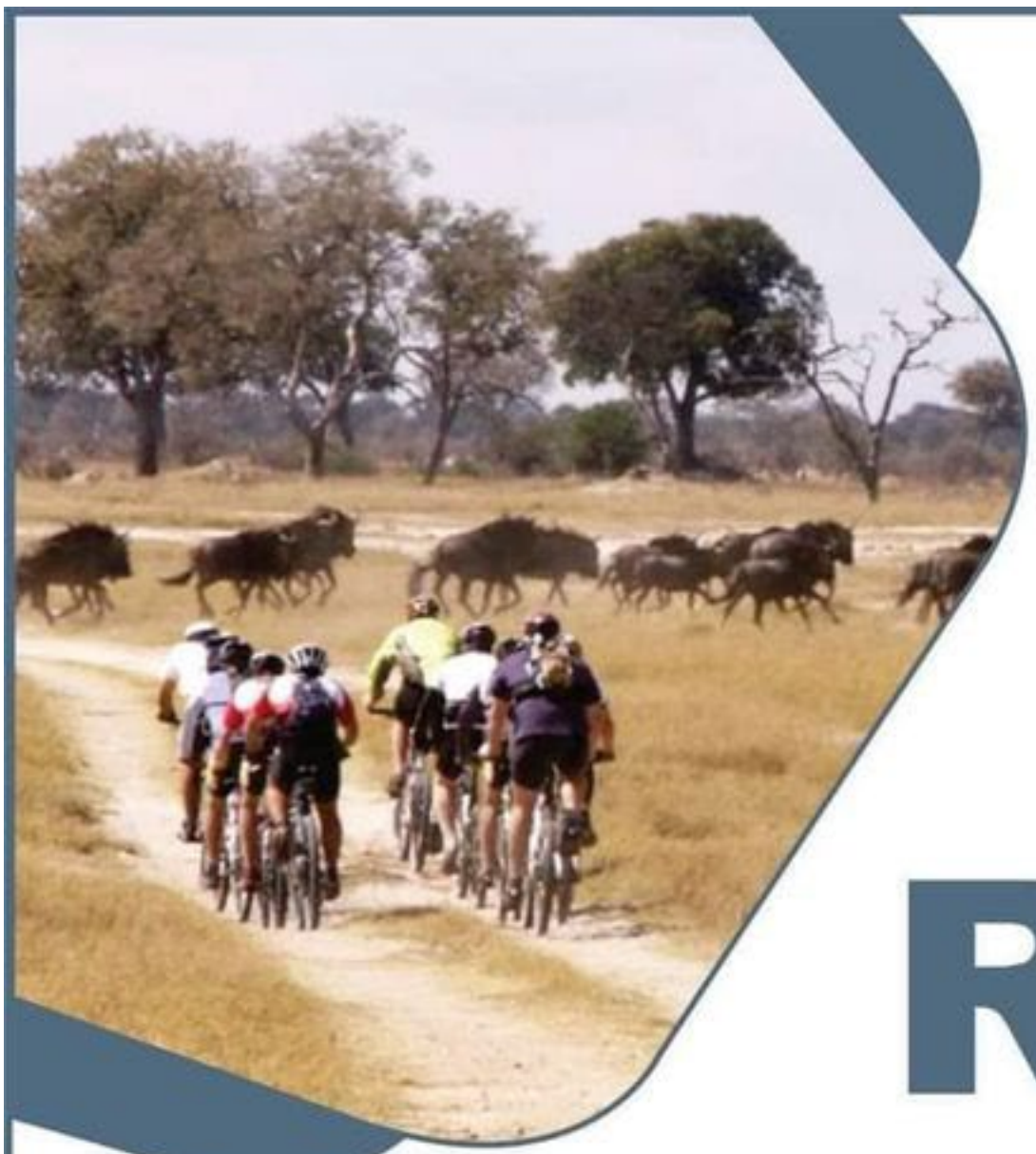
Running a YouTube channel is challenging, especially in Zimbabwe where it seems much more difficult to reach people in the community. Everything is more difficult, we are competing on global platforms and there are many other people with more experience, better equipment and bigger markets.

The trick is to find something you are passionate about, something that makes you happy just doing it, and keep it up. If you want to be the first Zimbabwean YouTube millionaire, that may take a long time, aim higher, aim at fulfilling your passion and let your channel grow at the rate it grows at.

Success is fulfilling your passion, as long as you are doing that you are successful.

Do you have a newsletter setup and operational for your business? How do you keep in contact with your customers?

Mailchimp and Sendinblue offer newsletter systems that start for free, and the free options are enough for most small to medium businesses.



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Please email proof of payment to pumpinglegszim@gmail.com
and further details to participate will be sent to you.
Minimum ride fee and sponsors are welcome.

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Register at: www.wezmat.org

Email proof of payment to: pumpinglegszim@gmail.com

Zimbabwean Publications

Enrich Zimbabwe.com

Enrich Zimbabwe.Com is a print & online publication that seeks to unearth, profile & celebrate the best & brightest that Zimbabwe has produced globally.

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Green Business Gazette

The GBG specializes on environment, energy, climate change, chemicals, wildlife, water efficiency, CSR issues and how organizations can be resource efficient.

issuu | Facebook

Harare Magazine

Harare Magazine is a bi-monthly lifestyle and events magazine that seeks to showcase the vibrant story of Harare.

Website | Facebook

Homes & Styles

The Homes & Styles(H&S) is a full colour monthly magazine introduced to bring readers continual inspiration to help relook, redesign and redefine their living space.

issuu | Website

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House of Mutapa

The House Of Mutapa is a magazine that celebrates and showcases the powerful and inspiring stories of Zimbabweans excelling across the globe!

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Lifestyle Magazine

Since its inception in December 2016 Lifestyle Magazine has done an exquisite job when it comes to educating, informing and entertaining its target audience.

Website | Facebook

Mining Zimbabwe Magazine

Mining Zimbabwe Magazine is a publication focused on the mining industry of Zimbabwe and how it relates and affects the rest of mining done in other African countries.

Website | Facebook

Ndeipi Magazine

Ndeipi is a monthly publication giving details of the social and sporting events happening in and around Harare.

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Nzira Travel Magazine

Nzira magazine is a publication aimed at showcasing Zimbabwe in a way that provides travellers with information about our beautiful gem, Zimbabwe.

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Structure & Design

Exclusively published for the proliferation of our construction industry to highlight the dimension and designs from conceptualization to project building.

issuu | Facebook

Sustain Zim

SustainZim is a tabloid newspaper published by POVOAfrika Trust. It seeks to promote a green culture within Zimbabwean homes, schools, work places and everyday lives.

issuu | Website

The Zimbabwean Gardener

The Zimbabwean Gardener offers inspiration, information and innovative tips and advice on gardening and living a green lifestyle for Zimbabweans and the diaspora.

Website | Facebook

Wakanaka Magazine

A Zimbabwean Magazine including articles on: health, beauty, fashion, fitness, décor, designers Fashion shoots and local people profiles.

Website | Facebook

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Zimbabwe Mining & Energy Review

Offering an insight into the mining,energy and related industry of Zimbabwe.

issuu | Facebook

ZiMunda Farming

The main objective for our ZiMunda Farming Magazine is to highlight where farmers can obtain information or equipment to facilitate Farming.

Website | Facebook

The Cost of Your Own Website

Website costs vary depending on what features are required. Just like every book, outfit, painting or holiday doesn't cost the same, websites are priced based on varying factors. This is a basic guideline of website design costs in Zimbabwe.

Website Development US$100 - US$500

CMS based website, such as Wordpress & Opencart. 3 to 10 customized pages, including setting up of online shop, some basic graphic designs for use on the site.

Hosting (monthly) US$3 - US$15

Hosting in a recurring cost to keep your website online.

Domain (annually) US$3 - US$35

Domains need to be registered and depending on the domain (.co.zw / .com / .net / .org) the cost varies.

So a once off design fee of between US$100 and US$500 will get your website designed and then a recurring yearly fee for your domain of between US$3 and US$35 and hosting of between US$36 and US$180 is required to keep it online.

LS DESIGNS www.lsdesigns.co.zw

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Buy Groceries Online

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www.groceryguruzim.com

We offer our customers delivery within 24 hours and have the groceries already in stock.

If you thought it couldn't get any better we are offering **FREE** delivery within Harare for a minimum order of US$50.00

$1.90

Sta Soft Lavender Refill 500 mls

$1.00

RHODES Tomato & Onion Mix 410g

$1.00

Crosse and Blackwell Mayonnaise Regular 375 grams

$7.00

Gordon's Gin 750mls

$1.20

FATTIS & MONIS Macaroni 500g

$1.00

RHODES Baked Beans 410g

$2.80

JUNGLE Oats Box 1kg

$8.00

Smirnoff 1818 750ml

$5.00

LIFE Full Cream Milk UHT 6 x 1ltr

Supporting local business is supporting local families pay bills, put their kids through school, afford to live.

Can you substitute an imported product or service for a locally produced one?

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Asus mb168s 15.6" Portable USB Monitor

Z$29,484.00 ZWL

Canon PIXMA MG2545S 3n1 Colour Inkjet Printer

Z$5,400.00 ZWL

Volkano Bazooka Bluetooth speaker

Z$4,860.00 ZWL

Dell Vostro 3671 i5-9400, 8GB, Win 10 Pro

Z$106,920.00 ZWL

Asus X543MA-GQ258T Dual core, 15.6", Win10

Z$38,880.00 ZWL

Asus S431F-EB093T i5-8265U, 14.0", Win10

Z$116,640.00 ZWL

Hydroponic Systems

Hydroponics is an increasingly popular method of growing plants that uses a nutrient-rich solution with a water base, which means that soil isn't used at all in a hydroponics system.

Plants are supported by growing mediums also known as the substrate, in order for the plant and roots to be properly held in place, such as Growstones, Peat Moss, Leca (Clay pellets), Perlite, Vermiculite, Coco Peat, Sand, Wood Chips or Fibers, Saw Dust, Hay Bales, Rockwool and many other potential grow mediums. Sometimes a grow medium is not required and the roots just grow freely with the plant supported in some way.

Some growing mediums work better than others in different systems, and for the plants you are growing. They each have different properties, retain water differently, reusability varies and there may be other requirements in order to use them. Research the medium you want to use and find the best way to use it in a hydroponic system for the plants you will be growing.
Combining grow mediums can also provide you the benefits of the different mediums used, while reducing the disadvantages.

Plants do not usually take in all the nutrients dissolved in growing solutions, and as a result salts can build up in the growing medium over time. It is important to limit salt build-up because it can raise pH, upset water and nutrient uptake by the plants, and ultimately harm plant health. Using excessive or higher than necessary EC can contribute to salt build-up.
To reduce salt build-up, flush the medium and the container/tray with clear water, using about twice as much water as the volume of the

container, and allow the leachate to run freely out of the container. The amount of water needed will vary by medium; more porous media, such as perlite, clay pellets, and sand will be easier to flush than other media types.
Some experts recommend flushing weekly, others monthly. For the home gardener, flushing every 30 days is likely to be adequate. You should also flush the medium if your plants are showing signs of toxic nutrient build-up. You can also flush the system about a week before harvesting, this sometimes improves the flavour. For the final week you can give them nothing but pH balanced water.
Pour the old liquid in your outdoor garden, trees, or bushes to give them a boost.

There are hundreds of variations of hydroponics systems available for you to use, however, there are only six types of hydroponic systems under which all variations are situated.

Each type of hydroponic system works in a different way, which means that all six hydroponic systems have their own distinct pros and cons for you to consider. When you're getting ready to use a hydroponic system for growing plants, you should know how each system works to fully understand how to select the one to use. The following offers an extensive and thorough look at the six types of hydroponic systems, which should make it easier for you to determine which system is right for you.

Hydroponics is an effective method for growing plants that places the plants in a water solution that's rich in nutrients. Instead of using soil to grow the plants, the roots of the plants come into direct contact with the nutrient-rich solution. The plants will also have access to a substantial amount of oxygen, which helps to facilitate growth. The primary advantage of using hydroponics to grow plants is that is allows for a much quicker growth rate. The growth rate can be between 30 percent and 50 percent faster than soil-based planting methods.

The six types of hydroponic systems are:

1. **Wick System**
2. **Deep Water Culture**
3. **Ebb and Flow**
4. **Drip**
5. **N.F.T. (Nutrient Film Technology)**
6. **Aeroponic Systems**

Wick System

The wick system is by far the simplest type of hydroponic system. This is a passive system, which means there are no moving parts. The nutrient solution is drawn into the growing medium from the reservoir with a wick. They are perfect for first time growers, they also beat almost any other system in small area grows and low cost. The entire concept of a wick system is based on capillary action; a process in which liquids travel against gravity through a piece of cloth or bandage.

This system can use a variety of growing mediums. Perlite, Vermiculite and Coco Peat are among the most popular. You can also use sand or wood chips. Each one can retain and absorb moisture. The exact type of medium you choose will depend on the efficacy of your wick.

Growing mediums can retain nutrients, causing a toxic build-up.

For the wick you can use a variety of household items such as nylon rope, mop head strings, strips of old clothes and propylene strips. You can test each one in coloured water beforehand. After at least an hour, you should have some indication of how far and fast the water travels. For best results use at least two wicks per plant.

Some initial planning at the start will help down the road, for example deciding on the size of the container from which the wicks pull water will determine how long the plants will have water reserves. You will also need to change out the water solution every few weeks to keep it fresh and the nutrient levels consistent.

The plants do need oxygen and if there is not enough you may need to

oxygenate the water, using a porous growing medium can increase the uptake of oxygen.

The biggest drawback of this system is that plants that are larger or use large amounts of water may use up the nutrient solution faster than the wick(s) can supply it. So this method is best for smaller plants that are not too demanding.

The biggest advantage is that these systems can be any size, you can create small wick systems to fit into any space you have available.

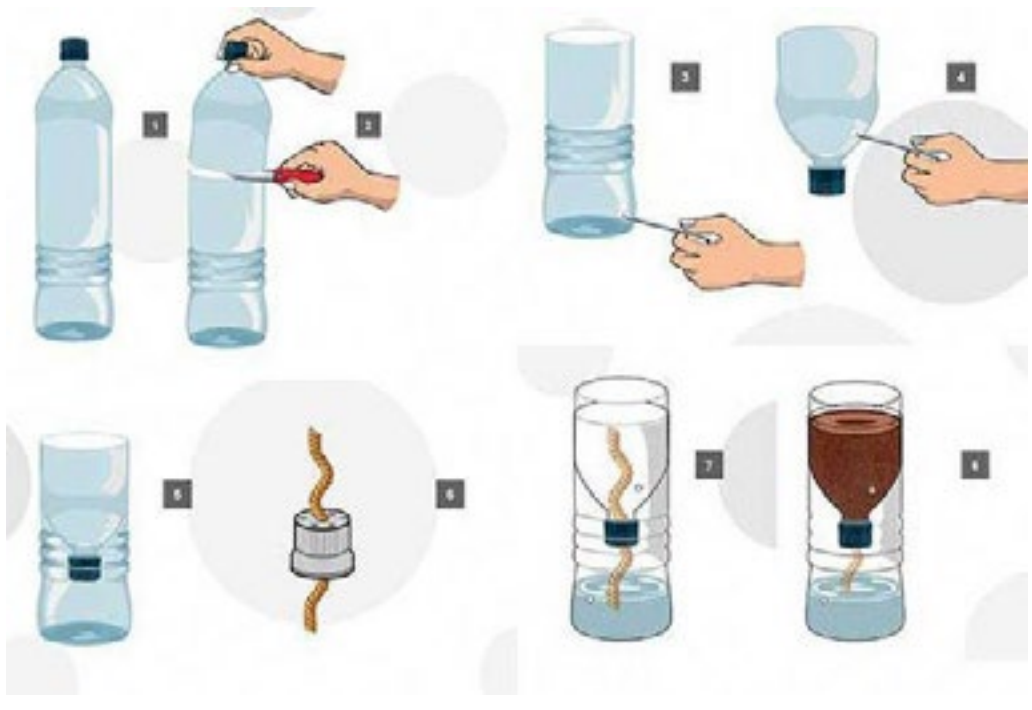
What you will need for a wick system is:

A container for your growing medium and plants, a growing medium, a reservoir for the nutrient solution, material to use as a wick, and plant nutrients.

The growing container and reservoir should not let light in to stop the growth of cultures in the nutrient solution that will damage your plants, either using black container or painting the outside dark to stop light getting in will work fine.

Due to the design of a wick system, you have a lot of flexibility in your choice of growing container and your reservoir, you can choose to have a large growing tray and plant many plants in it with a reservoir the provides water to the entire tray, or you can have individual containers for each plant, each with their own reservoir or all using a single reservoir, all their wicks drawing the nutrient water from the one nutrient reservoir.

A slight deviation from this is using a wick system for your plants planted in soil, this can be done too and you can add nutrients to the water to increase access of nutrients to what the plants can get from the soil.



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Deep Water Culture

Deep water culture systems are the simplest of all active hydroponic systems. The plants roots are suspended in the nutrient solution and the air is provided directly to the roots with an air stone or diffuser. It is considered active due to the air pump required, unlike the wicking system which does not use any moving parts.

You can also use a platform to hold the plants, usually made of styrofoam for smaller plants, that sits directly on the nutrient solution placing the roots of the plant directly in the nutrient solution. Stronger platforms are required for bigger plants.
While the wick system places certain materials between the plants and the water, the deep water culture system bypasses this barrier.
When you use this system keep in mind that the plants should be secured into their proper position with net pots or another suitable container / suspension method.

What you will need is a container for your nutrient solution and a platform to suspend your plant over the nutrient solution. There are many variations to these but an example is a bucket with a hole cut into the lid and a net basket to hold your plant. Another would be a container with a styrofoam board over it, and holes cut into it the styrofoam to hold net baskets. Then you'll need net baskets or other suitable containers for your plants and finally, also very important, an air pump and air stone to get oxygen into the water. A grow medium will help with keeping your plants in place and avoid tipping over, but the medium does not need to

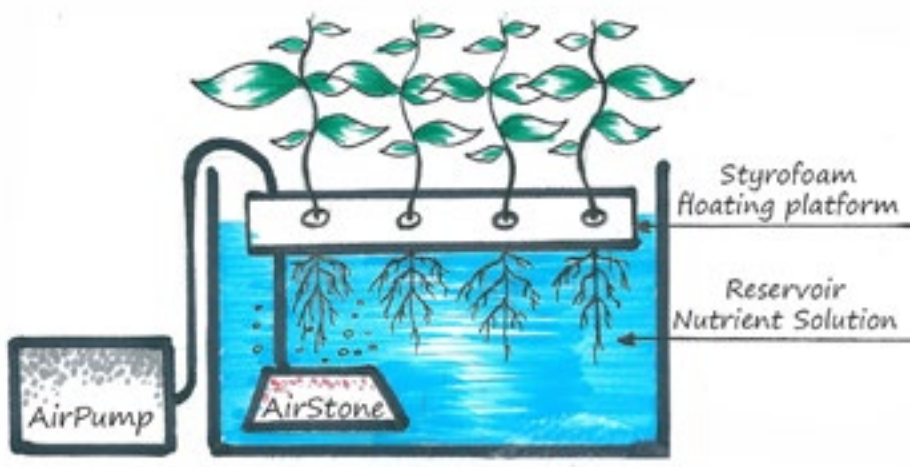
be selected for is water retention abilities, stones or leca will work well.

The best aspect of the deep water culture system is that the plant roots are placed directly into the nutrient solution, which means that the nutrients can be easily absorbed by the plants and you don't have to worry about using a growing medium to retain water. River rock and pebbles in the net pots will help keep the plant in place. Depending on what you are growing, it might be a good idea to use a grow medium with some weight to it. With larger plants, it helps prevent tipping.
Because of the direct access to nutrients and oxygen, plants that are grown with the deep water culture method will grow very quickly.
Another great aspect of the deep water culture system is that it's very easy to make and works well with any kind of plant. Even large plants with sizable foot systems or ones that grow an abundance of fruit, will grow quickly with this method.

Changing the nutrient solution can be difficult with larger plants, having a drain system in place for your larger plants can help with this.

It is possible to expose them to too powerful a nutrient solution since they are sitting in the nutrient solution at all times, too much concentration can fry the roots causing nutrient lockout. Another potential issue with this hydroponic system is the development of root diseases, which is caused by dirty growing conditions or lack of oxygen.

There is a variation of deep water culture that does not use an air pump thus reducing the requirement for electricity, know as the "Kratky method".



Ebb & Flow (Flood and Drain)

The ebb and flow system is another popular hydroponic system that's mainly used among home gardeners. With this type of system, the plants are placed into a grow medium and then it is regularly flooded and drained, this is usually accomplished by putting a pump on a timer set to pump the nutrient-rich water for a period of time and then turn off giving the medium time to drain.

You would time it so the water level reaches to a couple of inches from the top of your grow medium and then turn off, this ensures it doesn't overflow while adequately wetting the roots and grow medium.

The ebb and flow system has been found to be effective at growing nearly all types of plants, which includes certain root vegetables like carrots and radishes. However, it's recommended that you don't use particularly large plants with this system. Because of how much space these plants will require, you may not be able to fit enough of the grow medium and nutrient solution into the grow bed with larger plants. The main issue with the ebb and flow system is that the pump controller can malfunction, which halts operation until the pump is fixed or replaced.

The main benefits are that since the plants are not constantly submerged it allows for good aeration and good nutrient absorption at regular intervals. Plants are not directly connected to the reservoir so more plants can be grown on a platform much larger than the reservoir. If you are growing indoors the temperature can be more efficiently controlled with this system as the reservoir is separate from the growing trays. Once it is setup they are very easy to use and require very little maintenance.

Some drawbacks of the ebb and flow system are that slightly more experience is needed with this system to ensure nutrients and pH levels are kept constant and that the medium doesn't get clogged with salts

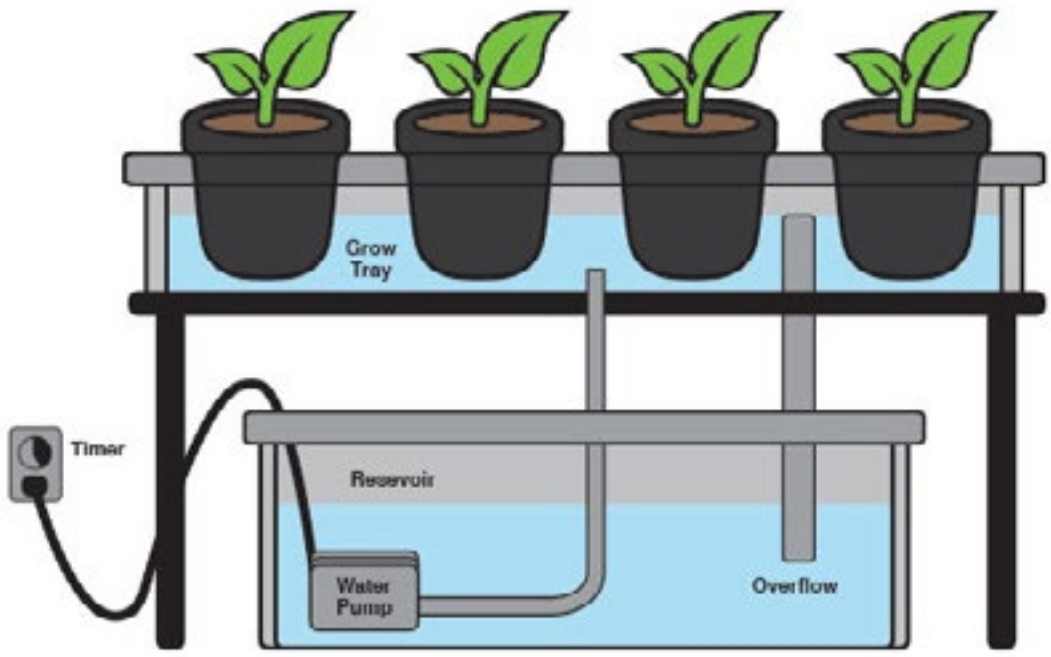
from the nutrient solution. Disruptions of power supply could affect timers and pumps, leading to dry roots. This can be reduced by choosing growing mediums that absorb and retain moisture efficiently such as, coco peat, rockwool, and perlite. Vermiculite floats easily so it not ideal to use especially on its own.

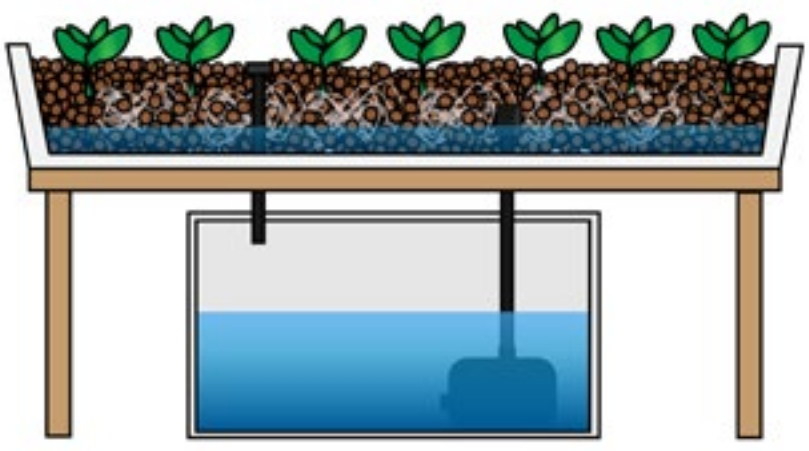
The basic components of the ebb and flow system are the plant tray / container, the reservoir, submersible pump, and a timer to turn the pump on and off.

You do not need additional aeration with ebb and flow systems as the plant roots get oxygen when the water drains. Ensure you leave enough time for your grow medium to drain adequately before the pump turns on again.

Because of the constant movement of water, it is important that you thoroughly scrub, clean, and sterilize your growing medium, reservoir, pots, and plant tray / container in between seasons. It is not uncommon for harmless algae to grow on these surfaces, but improper cleaning can lead to mold an insect infestations that could ruin your future harvest.

These systems can be customized in many ways to fit into your requirements.





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Drip System

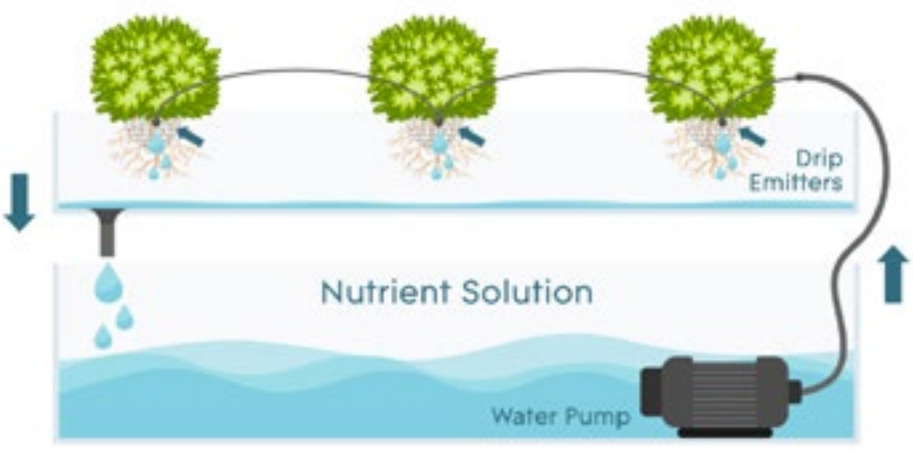
A drip system is an easy-to-use hydroponic system that can be quickly altered for different types of plants, which makes this a great system for any grower who plans to make regular changes. The nutrient solution that's used with a drip system is pumped into a tube that sends the solution straight to the plant base. At the end of each tube is a drip emitter that controls how much solution is placed into the plant. You can adjust the flow to meet the needs of each individual plant.

Hydroponic drip systems can easily be designed in many ways, as well as from small to large systems. But they are especially useful for larger plants that take a lot of root space. This is because you don't need large volumes of water to flood the system, and the drip lines are easy to run over longer spaces.

A growing medium is usually preferred for drip systems to help retain moisture. Popular options include coco peat, perlite and vermiculite.

Drip systems can be circulating or non-circulating systems. A circulating system will drip almost constantly. Any extra nutrients will be sent back into the tank that holds the nutrient solution. Since you can readily alter the size and flow rate of this hydroponic system, it can be used to grow practically any plant.

The biggest challenges with a drip system are the drippers can get clogged and pH fluctuation in the nutrient solution.



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N.F.T. System

The N.F.T. system has a simple design but is widely used because of how well it scales to a variety of different applications. When you use one of these systems, the nutrient solution is placed into a reservoir. From here, the solution is pumped into sloped channels that allow the excess nutrients to flow back into the reservoir. When the nutrient solution is sent into the channel, it flows down the slope and over the roots of each plant to provide the right amount of nutrients.

In most cases, the N.F.T. system won't make use of a grow medium. Since the channels that are used with this system are relatively small, it's recommended that you pair it with plants that have smaller root systems. Even though this system can't readily accommodate larger plants, it does scale well, which means that you can alter it to allow for the growth of a large number of plants at the same time. Since it scales well, this system is commonly used by commercial growers alongside home growers.

While you can add aeration in the water reservoir, it is not usually required as the channel should not be flooded and the roots have access to oxygen from within the channel.

The design of the N.F.T. system is based on the roots not sitting in water but rather constantly flowing water passing over the roots. There are many people that suggest raising the outlet in order to keep more water in the channel, but as soon as you do that it is no longer an N.F.T. system and rather a combination of deep water culture and N.F.T. and in this case you will have to add more aeration to stop root rot.

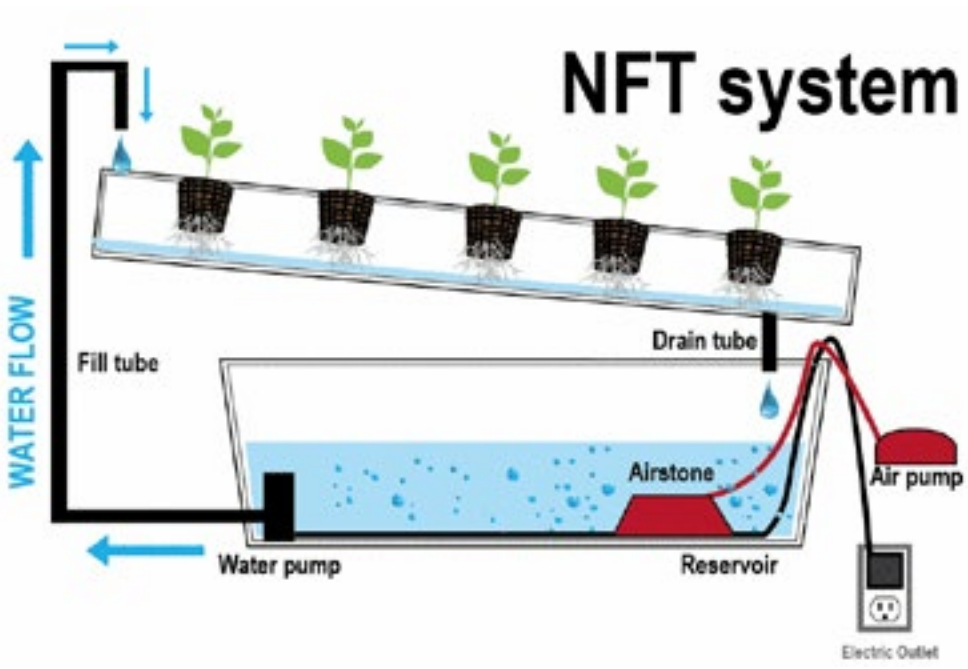
The "F" in N.F.T. stands for film and film by definition is "thin" it is not a N.P.T. system (Nutrient Puddle Technology). So while you can raise the water level in your channels to increase the water depth in the

channel, that removes the advantages of the N.F.T. system and changes the requirements. You will need more aeration and get no additional advantage.
The entire plants root mass remains moist from the roots being able to wick up moisture on the outside of the roots, as well as through humidity that's within the channel. The roots that are suspended between the base of the plant and the water level in the channel not only have moisture to access, but are also able to get plenty of oxygen from the air surrounding them within the channel as well. There is no need nor reason to raise the level of the water in a N.F.T. system.

Commercial growers typically use specially made channels for N.F.T. systems that have flat bottoms with grooves running lengthwise along the channel. These grooves allow water to flow underneath the root mass and help keep it from pooling or damming up. Home growers often use vinyl rain gutter down spouts for their channels. These vinyl down spouts have similar grooves, but cost just a fraction of what the commercially made channels cost. Home growers also often use round PVC pipes for N.F.T. systems. The PVC pipes don't have grooves, but with increasing the slope to compensate, the round pipes work well too.

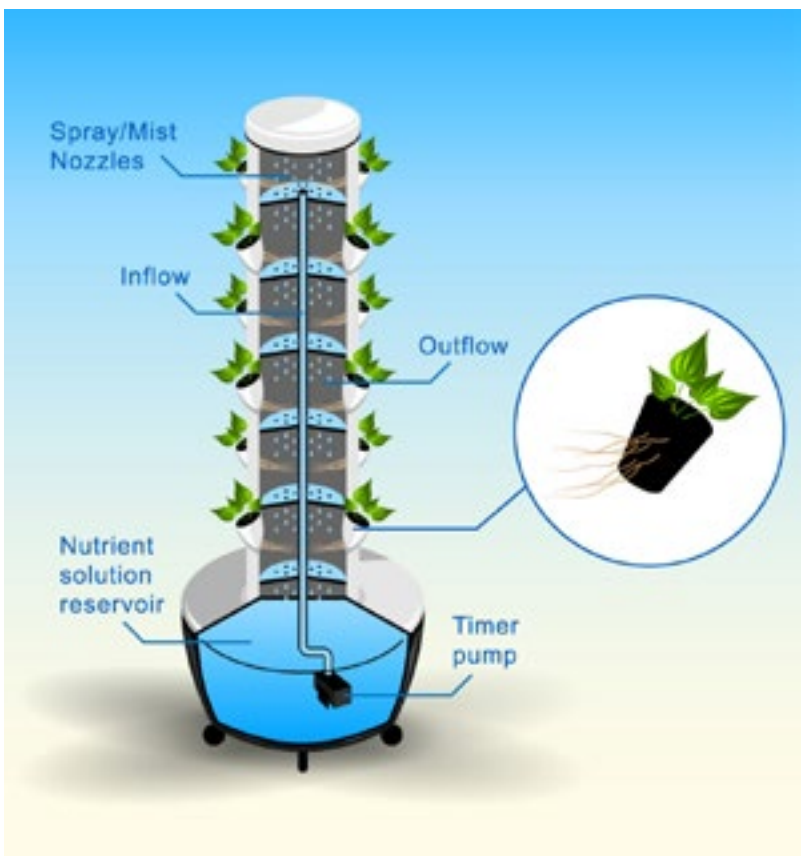
In an N.F.T system your flow rate in your channels should be 2L per minute, this ensures that the plants get enough nutrients. If the flow rate is much lower or higher you may notice your plants suffering from nutrient deficiency.

A downside to the N.F.T. system is that it very sensitive to interruptions in the flow of water from power outages. The plants will begin to wilt very quickly any time the water stops flowing through the system.



Aeroponic Systems

Aeroponic systems are easy-to-understand but somewhat difficult to build. It is the most technical of the 6 hydroponic systems.
With this type of system, the plants that you wish to grow will be suspended in air. Mist nozzles are positioned below the plants. These nozzles will spray the nutrient solution onto the roots of each plant, which has proven to be a very effective hydroponic method. The mist nozzles are connected directly to the water pump. When the pressure increases in the pump, the solution is sprayed with any excess falling down into the reservoir below.

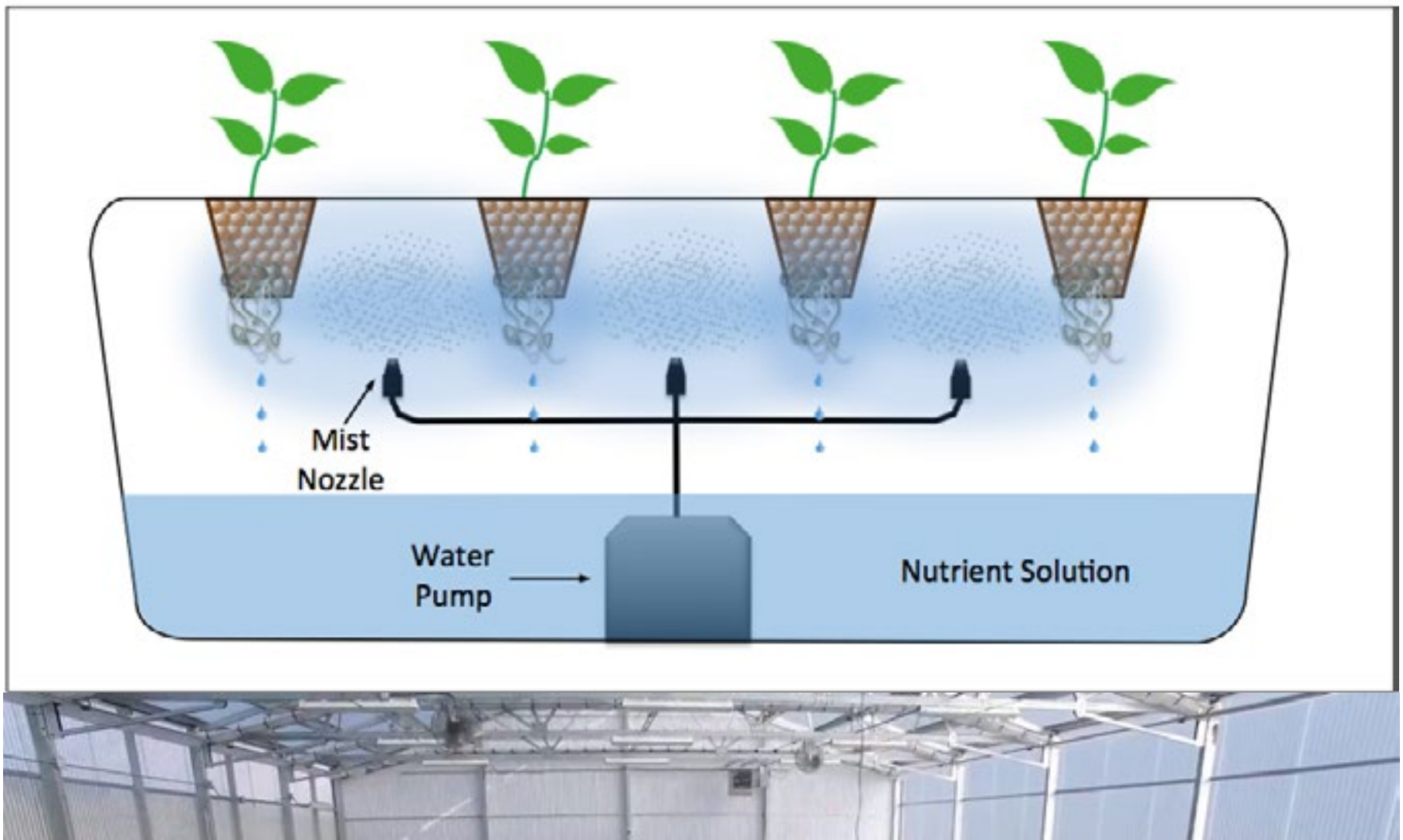


Aeroponics brings in new possibilities with vertical gardens, since the nutrient water solution simply needs to be sprayed onto the roots, you can create a range of designs that are not possible with other hydroponic systems.

As long as you use the right dimensions for the reservoir, you can grow nearly all types of plants in an aeroponic system. However, the reservoir will need to be very deep if you plan on growing larger plants. Since the plants within an aeroponic system are suspended in air, they get all the oxygen that they need. This system also uses less water than any other hydroponic system, which is great for efficiency. However, there are a couple of issues with this system. For one, they can be costly to build. The nozzles that spray the nutrients might also become clogged from time to time, which can be frustrating to clean and a problem for the plants.

Because the plant roots are hanging in mid-air by design, they are much

more vulnerable to drying out if there is any interruption in the watering cycle. Therefore, even a temporary power outage could cause your plants to die much more quickly than any other type of hydroponic system. You also have a reduced margin for error with the nutrient levels in aeroponic systems, especially the true high pressure systems.



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Conclusion

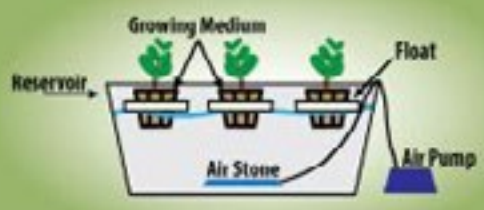
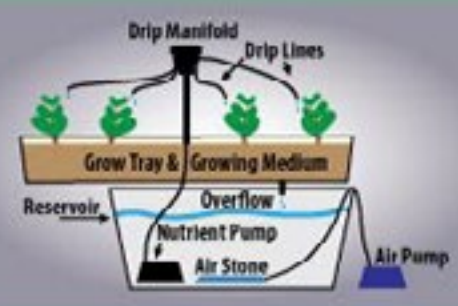
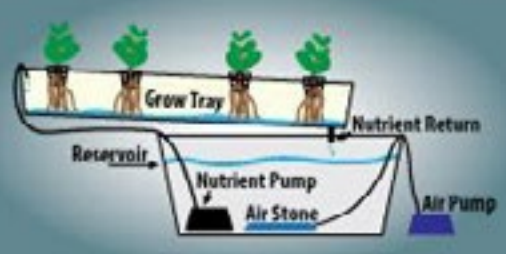
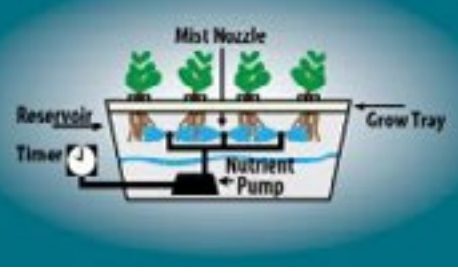
Based on those systems there are dozens of variations, hydroponic growing is very customizable and you can find so many ways to make a hydroponic system fit your requirements based on cost or space.

Hydroponics addresses certain problems and restrictions with growing vegetables & plants, most notably would be space and water. You can use hydroponics in any space you have available and if you add grow lights you can successfully grow indoors too. While hydroponics is a soil-less, water based method, it actually uses a lot less water than traditional soil growing. Since you lose much less water and the only water reduction is from what the plants use, you save between 70% and 90% of the water you would use for traditional growing.

Additional benefits include between 30% and 50% faster growth rate than soil planting and higher plant yield.
There are no weeds to be dealt with and less diseases, plus its overall less labour intensive. Depending on your growing conditions you can also have less problems with pests and since you can easily grow indoors you can also have better climate control options.

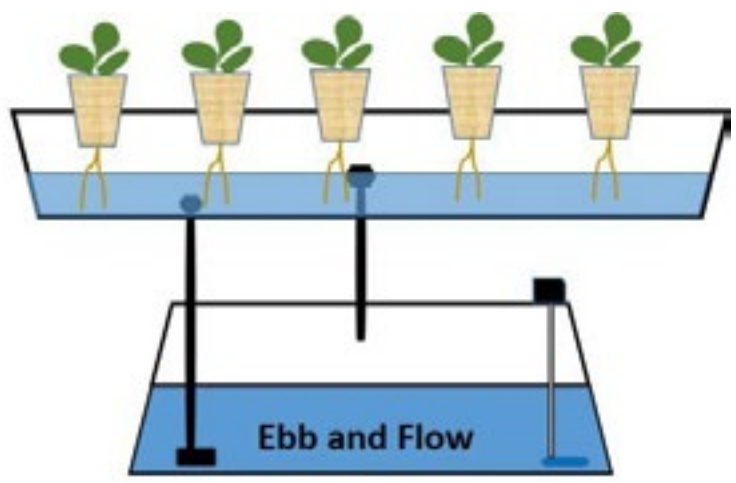
On a larger scale you can increase your planting space as you can use vertical hydroponic systems and get multiple times the land space used, therefore not only reducing growing time, but increasing the plants per square metre of land used.

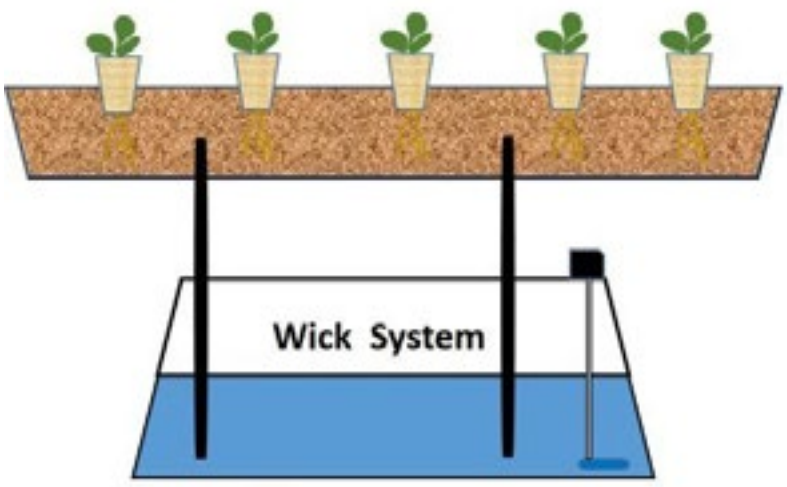
Simple

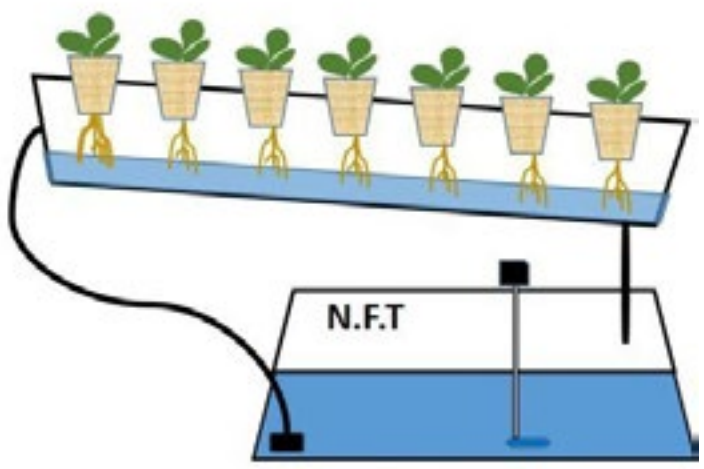
Hydroponic Systems	Pros	Cons
Wick Systems: 	• Affordable • Low maintenance • No nutrient pump	• Limited oxygen access • Slower growth rate • No nutrient recirculation • Prone to algae growth
Deep Water Culture: 	• Cheapest of the active systems • Simple set up • No nutrient pump • Reliable	• Risk of root rot if not cleaned regularly • Slower growth rate • Must top water until roots are long enough to fall into the nutrition solution • Must frequently refill reservoir
Ebb & Flow: 	• Affordable • Low maintenance • Excess nutrient solution recirculates	• Prone to algae growth • Technical malfunctions could result in crop loss
Drip Method: 	• Excess nutrient solution recirculates • Sufficient oxygen flow	• Prone to clogging • Prone to algae growth • Requires regular cleaning
Nutrient-Film Technique: 	• Excess nutrient solution recirculates • Plentiful oxygen flow • Space efficient	• Prone to clogging • Technical malfunctions could result in crop loss
Aeroponics: 	• Maximum nutrient absorption • Excess nutrient solution recirculates • Plentiful oxygen flow • Space efficient	• Prone to clogging • Technical malfunctions could result in crop loss • High-tech • Time intensive • Poorly suited to thick organic-based nutrients & additives

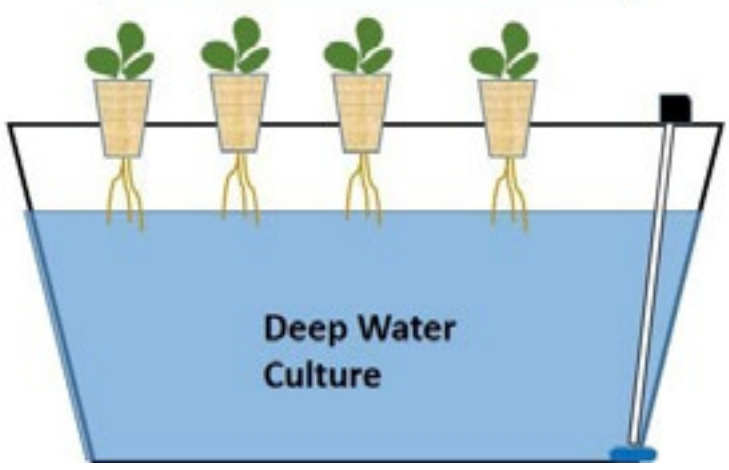
Advanced

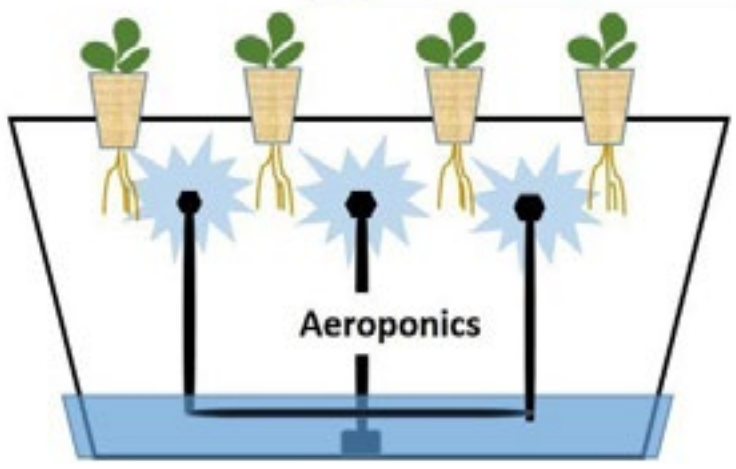
Different Type of Hydroponic Setups











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160 Hydro Farm

Improved Farming For A Healthy Taste

1. **Hydro Training** – We provide online course USD$30.00 upon completion you will receive a certificate signed by Venensia Mukarati and the director from Africa Start-up Academy https://startupuniversity.online/courses/introduction-to-hydroponics-farming/

2. **Hydro Equipment**

a) **Nutrients** – Hydrofeed(1Kg) & Calcium(0.650Kg) sold as a set together costs USD$8.00

b) **Starter Pack** (below)- 42 Plant Hydroponic System with solar pump costs USD$250.00 comes with Nutrients starter, Various Seeds or seedlings, jiffy pallets for the seed. Solar panel not included in the price

c) **Greenhouse Installation** – Price dependent on specific requirements

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Is your website "working" for you?

Websites have come a long way over the years, early websites were simply pages where people could see information about your company or products. Now they are much more.

With a Wordpress website you have the ability to create articles on topics related to your industry, easily setup and maintain an online shop including managing invoicing, inventory and multiple currencies. Receive online bookings, manage appointment scheduling, manage subscription and membership services among many other features you can choose to have.

This means websites no longer need to simply list your company products and services, it can increase your company's efficiency, improve your customer service and "work" for you.

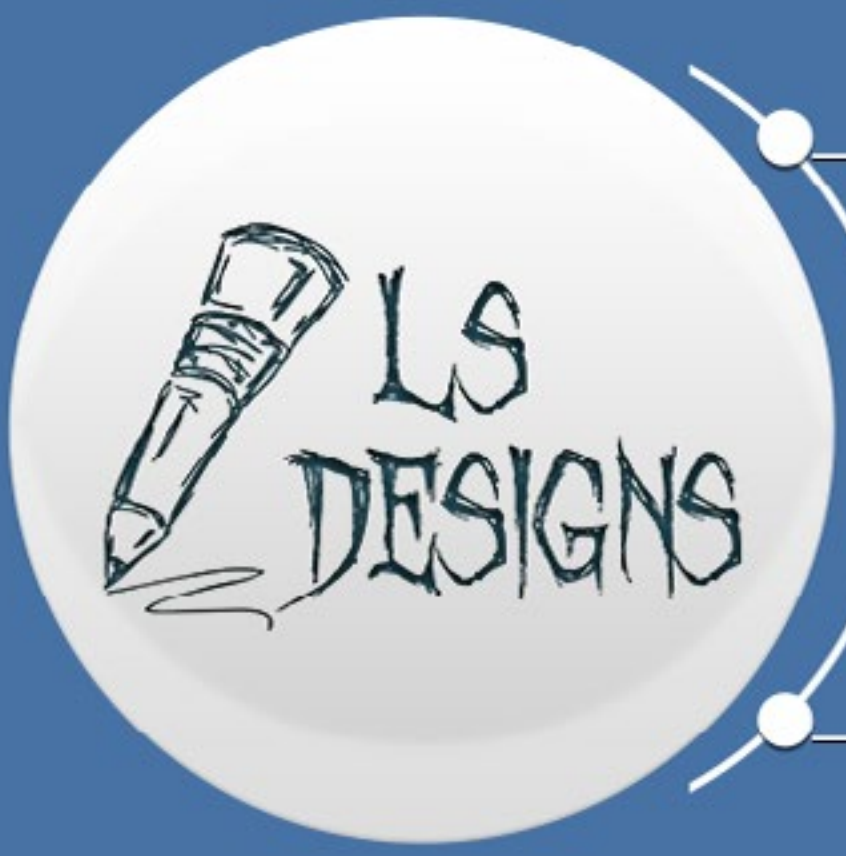
If your website is simply listing information for viewers, and then requiring them to contact a staff member for pricing, more information, or to enquire about a booking possibility, check appointment availability, or any other function that could easily be added to your website, it is time to look into upgrading your website and getting a truly useful website that earns its keep.

In addition to adding features to your website, you can get your own online systems to manage most aspects of your business.

Customer Relationship Management Systems are not implemented enough. By having your own company Customer Relationship Management System you can ensure when a customer calls, regardless of who they speak to, the entire previous interaction with that customer is just a click away.

There are systems to improve efficiency and productivity for almost every aspect of businesses, if you would like to know what options there are for improving efficiency or resolving issues in your company, send us an email and we will be able to give you information and offer assistance.

Email us on : lance@lsdesigns.co.zw



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