

A practical guide to home growing in **HYDROPONIC TOWER**



Companion
planting and crop
compatibility



Vertical Cultivation
Technique



Nutrition and
Fertiliser Solution



Germination
and Propagation



Key Parameter
Measurement
(pH & EC)



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presents

A Practical Guide to Home Growing with a HYDROPONIC TOWER

*The complete guide, from A to Z, for home growing
with Idroponica Facile kits*

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Introduction

Welcome to the Idroponica Facile Guide: the first complete practical guide, from A to Z, for home food growing with hydroponic towers.

Home Hydroponics

Growing your own vegetables at home offers real, tangible benefits — both personal and practical. You are in full control of every stage of growth — water, nutrients, environment, and harvest timing — and this translates into fresher, more nutritious produce, free from post-harvest treatments.

Over time, home growing allows you to reduce costs compared to continuously buying produce, at a quality far superior to what is typically available in shops. You will always have fresh vegetables on hand, ready to harvest whenever you need them.

Indoor hydroponics allows you to grow for 365 days a year, regardless of the outdoor climate and seasons. All you need is around 50 cm² of vertical space and an environment with temperatures similar to those we normally live in.

The Guide

This guide was created to help you grow at home in a simple, practical, and repeatable way. The principles described apply to any home hydroponic system, but are organised to be used clearly and immediately with Idroponica Facile systems (hydroponic towers and complete kits).

It is the result of our direct experience: every practice described derives from real trials, mistakes, corrections, and optimisations over time. You will find no unnecessary technical jargon or theory for its own sake, but only what is truly needed to get started, understand what is happening with your plants, and achieve tangible results.

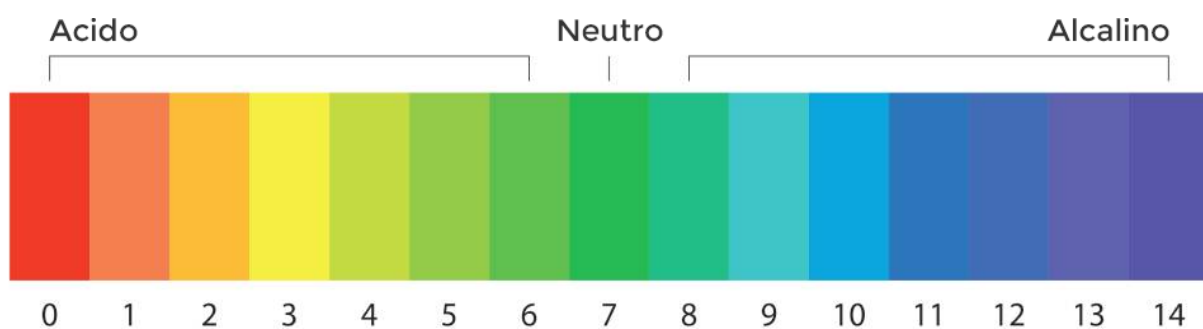
Chapter 1 — The Only Theory You Need

Hydroponics is a fascinating world that will likely captivate you. But to start growing successfully, you only need to understand five key concepts.

1.1 — pH

pH is a measure of the acidity or alkalinity of water. The scale runs from 1 to 14: values below 7 indicate an acidic solution, values above indicate an alkaline (or basic) solution.

In hydroponics, the optimal range is between **5.8 and 6.2**: the vast majority of vegetables perform at their best within this range, as it is the interval in which roots absorb nutrients most efficiently. It is measured with the pH pen meter.



1.2 — EC (Electrical Conductivity)

EC (Electrical Conductivity) measures the quantity of mineral salts — i.e. the nutrients — dissolved in the water. For the hydroponic grower, it is the indicator that reveals how much nutrition is present in the solution at the base of the tower.

Every vegetable has its own ideal EC range: for example, lettuce and rocket perform best with an EC between 0.8 and 1.2, whilst spinach requires higher values (1.8–2.3). It is measured with the EC pen meter.

1.3 — Light

Idroponica Facile hydroponic towers manage light autonomously. In most cases, it is sufficient to set a 15-hour on/off cycle and you will not need to think about it again.

For clarity, we refer to the Green Leaf Tower LED bars as “white light” and the Fruiting Tower LED bars as “grow light”. Outdoor towers, on the other hand, make use of natural sunlight.

1.4 — Temperature

Temperature directly influences plant metabolism. There are two situations to avoid:

- **Temperatures that are too low:** metabolism slows drastically, and the plant enters a kind of dormancy. Growth stops and nutrient absorption decreases significantly.

- **Temperatures that are too high:** metabolism accelerates excessively, causing heat stress. This can lead to dehydration, blocked root absorption, and in many species (especially leafy vegetables), early bolting with premature flowering and loss of harvest quality.

Water Temperature

The same principle applies to the water in the reservoir. When the temperature rises above approximately 22–24°C (the exact value varies by species), the amount of dissolved oxygen decreases noticeably. Less oxygen means a greater risk of root asphyxiation and the development of pathogens such as Pythium.

To counteract these thermal imbalances, you can intervene by adjusting the frequency and duration of the pump cycles, increasing oxygenation, and limiting stagnation. Idroponica Facile complete kits always include an oxygenator, which is particularly valuable during the warmer seasons.

1.5 — Relative Humidity (RH)

Relative air humidity is a factor that is often overlooked, yet it can significantly affect the quality of your crop.

- **RH too low (< 45%):** plants transpire excessively and absorb too much water. Mineral salts accumulate in the reservoir, increasing the concentration of the nutrient solution (the EC value rises).
- **RH too high (> 70%):** transpiration slows, nutrients are absorbed less effectively, and growth may be sluggish. The risk of mould and fungal diseases also increases.

One specific aspect concerns fruiting vegetables such as tomatoes and peppers: excessively high relative humidity hampers pollination. The pollen absorbs moisture from the air, becomes sticky and less airborne, and struggles to move from the anthers to the stigma. The result is poor fruit set and therefore lower yields.

Chapter 2 — Defining Your Goals

Before doing anything else, it is worth pausing for a moment to reflect on what you want to achieve from this experience. Hydroponic towers may look similar from the outside, but the choice of vegetables to grow makes the difference between “seeing something grow” and “getting the most out of every production cycle”.

The best results are achieved when the vegetables in the tower have been chosen for their similar growing requirements: the same nutritional needs, the same light levels, the same temperature. Here is why.

2.1 — Nutrition

Every vegetable has a precise nutritional requirement, measured in EC. Growing plants with very different needs in the same tower means that some will grow in optimal conditions and others will not.

For example: lettuce grows well with an EC of around 0.8–1.0, whilst spinach requires 1.8–2.3. If we set the EC at 1.0 in the same tower, the lettuce will thrive but the spinach will be underfed and its growth will stall. Conversely, if we raise the EC to 1.8 to satisfy the spinach, the lettuce will become tough, bitter, and of poor quality.

The rule is simple: choose vegetables with similar nutritional requirements.

Table 1 – Appendix B – shows the requirements of the most common vegetables.

2.2 — Light

Light also plays a decisive role in choosing which tower to set up. There are two main types.

Leafy vegetables — lettuce, rocket, chard — grow very well under the white light of the **Green Leaf Tower**. Fruiting vegetables — tomatoes, peppers, kale, curly kale — require greater intensity and a more complete light spectrum, such as that offered by the **Fruiting Tower**.

2.3 — Temperature and Humidity

The environmental conditions of the location where you will place the tower are also a factor to consider when making your choice. If the same tower contains tomatoes (which love warmth and slow down in the cool) and spinach (which thrives in the cool but bolts in the heat), the results will be disappointing regardless of how well the tower is managed.

Your choice should not simply be a matter of personal taste. Ask yourself: where will you put your tower? What minimum and maximum temperatures will there be in that location? These variables will already help you choose wisely.

TIP

To help you at this stage, we have developed a small app that will show you which vegetables you can successfully grow together in the same tower. You can find it at

www.idroponicafacile.com/apps

Chapter 3 — The Idroponica Facile Equipment

Idroponica Facile is a project created to provide you with everything you need to grow successfully and enjoyably. The towers and kits contain everything required — except the water, which is down to you. Here are the features of each component.

3.1 — The Hydroponic Tower

The nerve centre of home production, the Idroponica Facile tower is made up of the following elements.

Reservoir

A food-grade PVC reservoir with a 30-litre capacity. It sits at the base of the tower and is where the nutrient-enriched water is poured.

Tower Modules

Available in configurations of 5, 7 or 9 modules (depending on the model purchased), these are the sections that make up the vertical part of the tower. Seedlings are placed on the outside, whilst the nutrient solution flows inside — in cycles controlled by the pump.

Net pot

The classic mesh baskets used in hydroponics. When a seedling is ready for transplanting, the rockwool cube is placed into the net pot, which is then inserted into one of the slots in the tower modules.

Water Pump and Controller

Submerged in the nutrient solution and connected via a short tube to the tower (deliberately shorter than the height of the reservoir, to keep the pump suspended and further reduce the already minimal noise), it is the heart that circulates the solution, pushing it up to the top of the tower. From there, gravity draws it down, wetting every individual root.

The pump connects to the mains via the power supply. Always keep the **regolatore di intensità**. The controller allows you to set the irrigation duration (5/10/15 minutes) and frequency (every 15/20/30 minutes).

TIP

The ideal starting configuration, under optimal temperature conditions, is: **on for 5 minutes** (green light) and **off for 15 minutes** (green light). With plants already grown, **on for 10 minutes** (yellow light) and **off for 20 minutes** (yellow light).

LED Bars and Timer

The light bars provide the energy needed for photosynthesis. The power cable is fitted with a timer that allows you to set light cycles of 9, 12, or 15 hours. In most cases, the ideal cycle is **15 hours**.

Support Frame for Fruiting Plants

Available exclusively with the Fruiting Tower (not required for the Green Leaf Tower), it is a vertical circular structure that attaches to the reservoir lid. It is designed to support the branches of plants that become heavy as they load up with fruit.

Fixing Accessories

Supplied with the tower, these include C-connectors (for joining the LED bars together) and L-connectors (for attaching them to the reservoir lid).

3.2 — Growing Kit

This set of essential tools for growing in hydroponic towers is included in the complete kits or available separately as the Idroponica Facile Growing Kit.

pH Pen Meter

A simple yet invaluable digital instrument that indicates how acidic or alkaline the nutrient solution is. Simply immerse the tip in the solution, switch the pen on, wait a few seconds, and read the value on the display. It requires initial and periodic calibration (every few months), but the pens included in the kits are already calibrated.

EC/TDS Pen Meter

A multifunctional meter capable of measuring the EC of the nutrient solution, TDS (an alternative reading method we will not be using), and water temperature. Use it in exactly the same way as the pH pen: immerse, switch on, and read the value. No calibration required.

CAUTION

Always take care to read the EC values and do not confuse them with TDS. The display shows the active mode: if it shows TDS, press the SHIFT button to return to EC reading ($\mu\text{S}/\text{cm}$).

Terra Aquatica pH Down

This is the pH corrector we use because it does not simply lower the value immediately — it also helps stabilise it over time, making the solution more balanced and less prone to fluctuations. It should be used in small quantities, added gradually, and always checked with the pH pen after each correction.

CAUTION

This is a concentrated acid: always use small doses, add it gradually to the water (always in quantities of a few millilitres), and avoid direct contact with skin and eyes.

Expanded Clay

The small expanded clay pebbles are used in the net pot to cover the rockwool cubes, protecting them from light and limiting the proliferation of green algae. They also provide support for the young stems of newly transplanted seedlings.

Precision Measuring Cups

Tools for the precise measurement of nutrients and pH Down. Idroponica Facile kits include two: one 30 ml and one 10 ml, for greater precision with small quantities.

Oxygen Pump

An accessory that oxygenates the nutrient solution, ensuring optimal root respiration and preventing root rot and anaerobic stagnation. It is practically essential during the warm season, when rising water temperatures reduce the amount of dissolved oxygen.

It is positioned outside the tower; a small tube enters the reservoir, where a porous stone remains permanently active on the bottom. It is supplied with a flexible tube and a non-return valve.

3.3 — Germination Kit

PVC Frame

A simple, lightweight frame that provides the support needed during the germination phase. It allows for the correct positioning of the LED bars above the trays and ensures stability, modularity, and easy access during checking and watering operations.

White Light LED Bars

Two white light bars (4000K) that provide the right quantity and correct spectral mix of light to promote uniform germination and compact seedling growth. This colour temperature stimulates balanced development, preventing excessive stem elongation (etiolation) and encouraging the formation of the first true leaves.

Trays with Dome

The trays with transparent lids keep humidity high during the first few days, promoting rapid and uniform germination. The adjustable vents allow for gradual aeration to prevent excessive condensation and avoid mould or rot.

Rockwool Cubes

The ideal growing medium for germination in hydroponic systems. Its fibrous structure provides a perfect balance between water retention and root oxygenation, promoting rapid and healthy development of young seedlings. Once the first true leaves have developed, the cube can be inserted directly into the net pot and covered with expanded clay.

Vermiculite

A fine-grained expanded mineral (1–3 mm), with a neutral pH, ideal for covering the hole in the cubes after sowing. It settles perfectly without compacting, protecting the seed and creating a stable microclimate. It maintains constant moisture, ensures good oxygenation, and helps to shield the seed from light.

3.4 — TriPart Starter Kit Nutrients

The TriPart Starter Kit (Flora Series) by Terra Aquatica / GHE is a three-component mineral fertilisation system, developed in collaboration with NASA for hydroponic growing. The kit consists of:

- **FloraMicro:** provides essential micronutrients and calcium
- **FloraGro:** stimulates vegetative growth (nitrogen and leaf development)
- **FloraBloom:** promotes flowering and fruiting

The main advantage is its modularity: by varying the proportions of the three components, you can adapt the nutrient solution to the different stages of growth. It is our choice because, among the many fertilisers tested, it has proven to be the most complete, stable, and reliable over time. It is available in versions for soft water and hard water.

CAUTION

Fundamental rule: always add the components in the order Micro → Grow → Bloom. Never mix the concentrates together before diluting them in water.

Chapter 4 — The Seedling Tray: Sowing, Management and Transplanting

Everything begins here. This is hour zero, the starting point of your production. Growing at home from seed is the best way to gain control, freedom, and the true economic benefit of home growing.

It is an enjoyable moment, though we recommend preceding it with a moment of reflection:

- How many vegetables do I want to harvest, and which ones, in the coming weeks?
- Which vegetables are suited to the current season and temperatures?
- Which vegetables are compatible with each other in the tower? (Some are large and may shade their neighbours: it is a good idea to have at least a rough plan for the arrangement in the tower.)

4.1 — Pre-Sowing

24 to 48 hours before sowing, carry out these preparatory steps.

1. Fill an open container with tap water and leave it to stand for at least 24 hours, so that the chlorine can evaporate. This should always be done for every hydroponic activity. From now on, we will call this water **rested water**.
2. Using the pH pen meter, measure the pH of the water. Using Terra Aquatica pH Down, correct the value until you reach **5.8–6.0**.

IMPORTANT

Use only very small quantities of pH Down (for example 1 ml at a time), mix, measure again, and repeat if necessary. Prepare more than you need: it will also be used for watering the cubes in the days that follow.

3. Fully submerge the rockwool cubes needed for sowing (allow 2–3 extra in case any get damaged). Leave them submerged for 6 to 24 hours: this allows the cube to become thoroughly saturated and to stabilise its own pH, thereby creating the ideal environment for the seeds.

4.2 — Sowing

Once you have decided what to sow, you can proceed.

1. Remove the cubes from the water and allow them to drain slightly.
2. Separate the cubes from one another (using a craft knife if necessary). After a very gentle squeeze (the cube should not drip, but must not dry out either), place them in the seedling tray.
3. Place the seed (or seeds) in the hole of the cube. For very small seeds (such as those of lettuce), use a damp cocktail stick: the seed will adhere to the tip and you can position it precisely.

4. Take the vermiculite and using a very small spoon, pour a minimal quantity into the hole. It should only cover the seed, not coat the entire cube.
5. Close the tray with the dome, keeping the ventilation holes completely shut. Repeat this for all trays.
6. Switch on the seedling tray LED lights and position the trays so that the cubes are approximately 12–14 cm from the lights. Set a light cycle of approximately 14 hours. Remember this distance: it is also the recommended distance for the subsequent growth phase.

Table 2 in the appendix shows guidance on how many seeds to place in the cube for each type of vegetable.

TIP

This is the perfect moment to note down what you have sown, when, and where. In Appendix C you will find a handy record sheet to print for this purpose.

4.3 — Visual Check

It usually takes at least 48 hours to see the first shoots appear. At this stage it is good practice to remove the dome for about ten minutes a day to let the cubes air, then replace it. The dome should show a slight condensation on the inside: this is confirmation that the moist environment needed for germination is present.

4.4 — Watering

A small botanical note: when a seed germinates, it first produces two small leaves that are different from all subsequent ones (the cotyledons). Only after these will the “true” leaves appear.

From Sowing to Cotyledons

If visual (and tactile, if necessary) inspection indicates that the cubes are drying out, mist them with the pH-corrected water (5.8–6.0) prepared during the pre-sowing phase.

After the Cotyledons

Once the cotyledons have appeared, keep the dome vents open.

TIP

During this period, prepare a small quantity (approximately 1 litre) of a light nutrient solution at EC 0.6, always using rested water. You will find the preparation instructions in Chapter 6.

First True Leaves

When you begin to see the first true leaf, it is time to remove the dome permanently and start feeding the seedling. You can do this in two ways:

- **Spray method (recommended):** using a mister, spray the light nutrient solution onto the sides of the cube, avoiding wetting the seedling directly.
- **Immersion method:** immerse the cube up to 2/3 of its height (without submerging it completely) for about ten seconds in the nutrient solution. This method encourages the roots to emerge decisively from the cube, easing and speeding up the transplanting process.

Both methods work. The first is quicker; the second promotes a more robust root system and reduces the formation of green algae.

4.5 — Transplanting

When the seedlings have 3–4 true leaves and roots protruding from the cube by at least 3 cm, they are ready for transplanting into the tower.

1. Take the cube with the seedling and, using a cocktail stick, gently untangle the roots so that they protrude from the underside.
2. Insert the cube into a net pot and, again using the cocktail stick, guide the main root through the central hole.
3. Add a small quantity of expanded clay (breaking up any larger pieces if necessary) on top of the cube. This protects the cube from the LED light (preventing algae formation) and provides support for the stem.
4. Insert the net pot into a slot in the tower.

Chapter 5 — Assembly and Preparation of the Tower

Has a few days passed since the first sowing and you have seedlings ready to transplant? Perfect: it is time to assemble the tower and prepare it for production.

5.1 — Assembly

Before you begin, here is the lengthy list of tools required: a cross-head screwdriver. That is all.

Even though the towers are delivered ready to assemble, it is always advisable to give the reservoir and components a quick rinse to remove any dust or packaging residue.

Procedure

1. Place the reservoir on a stable, level surface. If you are positioning the tower in a cool location (cellar, garage), place an insulating layer under the reservoir (wood or similar). Make sure it can bear the weight.
2. Take the reservoir lid and secure one tower module with the two long screws provided.
3. Firmly connect the rubber tube to the water pump and to the inner base of the lid. Pass the power connector through the check/fill window. Connect the pump to the cycle controller, then the controller to the power supply. Set the intensity regulator to maximum and always leave it there.

CAUTION

Never switch the pump on unless it is fully submerged in water.

NOTE

Complete Kits Only — Connecting the Oxygenator: insert the tube into one of the front holes of the oxygenator, cut it to approximately 20 cm, and fit the non-return valve. The other end of the tube goes into the small hole in the reservoir lid; inside the reservoir, connect the suction cup and the porous stone and lay them on the bottom. Plug the second hole of the oxygenator: you will use it with your second tower.

4. Assemble all the vertical modules by slotting them into the shaped fittings. At the top, place the irrigation trough and then its lid on top.
5. Secure the lid to the reservoir using the screws and bolts provided.

NOTE

LED Towers Only: (a) Screw the brackets (L-connectors) to the reservoir lid. (b) Assemble the LED bars using the C-connectors according to the configuration (5, 7 or 9 levels). (c) Insert the 4 bars into the 4 brackets. (d) Connect the 4 plugs to the base of the bars. (e) Connect the LED power supply to the mains. (f) Set the light cycle (in most cases, 15 hours).

6. Connect the water pump to the mains, but do not switch it on until the reservoir has been filled.

The tower is now assembled. It is time to prepare the nutrient solution.

Chapter 6 — Preparing the Nutrient Solution and Starting Up

The tower is assembled and the seedlings are ready for transplanting. It is time to fill the reservoir with the nutrient solution and officially launch production.

6.1 — Choosing the Nutrient Mix

You should already have decided which vegetables you want to grow (see Chapter 2). Based on this choice, you will select the most suitable formulation of the Terra Aquatica TriPart.

IMPORTANT

On the back of the TriPart packaging you will find several formulations. Use only those marked with the “Hydro” or “Coco” symbol: soil formulations are not suitable for tower growing.

Here are our recommendations based on the type of tower.

Green Leaf Tower (both LED and outdoor)

Use the “**Growing**” formulation and, at the start, follow exactly the quantities indicated on the packaging. When the seedlings are in full growth phase, to maximise yield you can increase the dose by 30% (in the mixing calculation, consider a quantity of water 30% greater than the actual amount — example: for 10 actual litres, calculate the doses as if for 13 litres).

Fruiting Tower (both LED and outdoor)

Use the “**Preflowering**” formulation until the plants have well-formed flowers, then switch to the “**Flowering**” formulation when the flowers begin to turn into fruit.

If your tower contains plants at different stages of growth (for continuous cyclic production), you can use our optimal balanced formula:

- **Grow:** 1.6 ml/L
- **Micro:** 1.8 ml/L
- **Bloom:** 1.6 ml/L

EC target: circa 1.8–2.0

6.2 — Mixing

Fill a bucket or basin with 25 litres of rested water (leave a little space for any corrective top-ups). Do not prepare the solution directly in the tower reservoir.

Pour some of that water into a container of at least 1 litre and, using the measuring cups, add the calculated quantities of nutrients.

CAUTION

ALWAYS use this order and never change it: the concentrates must not come into contact with each other before being diluted, otherwise they may react and lose their effectiveness.

1. Add **Micro**, mix well for a few seconds.
2. Add **Grow**, mix well.
3. Add **Bloom**, mix well.
4. Combine the concentrate with the rest of the water in the bucket and mix thoroughly.

6.3 — pH Correction

Using the pH pen meter, measure the pH of the solution: the target is always **5.8–6.2**.

If the value is too high (which is almost always the case), correct it with pH Down.

- Add a few drops of pH Down to the solution.
- Mix well.
- Wait a few seconds.
- Measure again.
- Repeat until you are within the target range.

TIP

pH tends to drop slightly in the hours following preparation. For this reason, you can stop 0.1–0.2 points above the target value: within a few hours it will settle on its own.

CAUTION

If you accidentally lower the pH too much, add some rested water (whose higher pH will balance the solution). It is better to make several small corrections than one large one.

6.4 — Filling the Reservoir

Pour the nutrient solution into the reservoir. If the tower has an oxygenator (as in the complete kits), switch it on and leave it running permanently: its energy consumption is negligible and its contribution to root health is significant.

6.5 — Transplanting the Seedlings and Starting Up

You can now insert the seedlings into the tower and officially start production (see Chapter 4 for details on transplanting).

Position them taking their future size into account, trying to avoid shading once they have grown. Sensibly alternate larger plants with smaller seedlings.

TIP

For particularly large plants (cherry tomatoes, peppers), it is best to leave some adjacent slots empty. For structural balance, place the heaviest plants in the lower part of the tower.

If you do not fill all the slots (you can do so later), plug the unused ones so that the LED bar light does not penetrate inside the tower, preventing green algae from forming.

Chapter 7 — Routine Checks and Daily Management

A well-established hydroponic tower does not need constant intervention. The most common mistake, in fact, is intervening too often. Your goal is not to constantly “adjust” things, but to maintain a stable equilibrium.

7.1 — What to Check (and When)

There is no need to measure every hour. A good routine involves:

- **Every 2–3 days:** quick check (water level, general appearance of the plants)
- **Once a week:** more thorough check (EC, pH, root condition)

7.2 — Water Level

The first thing to check is the water level in the reservoir. It is essential that it never drops below the level of the pump: if the pump operates even partially out of the water, it will be damaged.

Learn to estimate the amount of water missing (you can use a small stick to measure the depth). Prepare the necessary quantity of rested water in your bucket.

7.3 — EC and pH Check

Using the pen meters, measure the EC and pH of the water in the reservoir.

CAUTION

A common error when reading EC is confusing the value with PPM (Parts Per Million). Make sure the pen display shows $\mu\text{S}/\text{cm}$ and not PPM.

7.4 — Corrective Top-Up

Based on the values recorded, prepare the top-up water according to these guidelines:

- **EC correct:** you can add the standard TriPart formulation.
- **EC high:** simply add rested water alone, with no nutrients.
- **EC low:** prepare a more concentrated solution (in the calculation, account for more litres than you will actually be adding).

Always follow the procedure indicated in Chapter 6 for mixing (Micro, mix → Grow, mix → Bloom, mix).

Add the solution to the reservoir, mix, and activate the circulation pump to blend everything evenly.

pH Correction After Top-Up

- **pH correct:** no action required.
- **pH high:** use pH Down as indicated in Chapter 6 (1–2 ml at a time, mix, re-measure).
- **pH low:** add rested water only; its higher pH will help to rebalance the solution.

7.5 — Observing the Plants

In addition to checking the water and nutrients, it is important to learn to observe the plants. In Chapter 12 you will find how to recognise the main signals that plants communicate about their state of health.

NOTE

In hydroponics, the golden rule is: less is more. It is better to intervene less frequently, but correctly.

Chapter 8 — Staggered Harvesting and Production Cycle Management

8.1 — First Staggered Harvest

After approximately 20–25 days from starting the tower, you can begin to harvest the first results of your work.

Staggered harvesting (for leafy vegetables such as lettuce, rocket, and chard) involves removing the outermost leaves of each plant using clean scissors. Cut no less than 2 cm above the crown (the point from which the leaves branch out) and do not harvest more than one-third of the head at a time, so as not to stress the plant.

8.2 — Harvesting with the Tower in Full Production

Full Head Harvest

After approximately 40 days (for short-cycle vegetables), the tower enters full production. At this point you can also consider harvesting the whole head in the case of lettuces, pak-choi, chard, and similar vegetables.

Cut-and-Come-Again

For lamb's lettuce, rocket, mizuna (Japanese mustard), and some cut-and-come-again lettuce varieties, you can carry out a complete cut (always above the crown) and leave the plant in the tower. After a few days it will regrow fully. With these varieties it is possible to obtain 3–4 complete cycles before the vigour is spent (you will notice this as it will produce few leaves and very slowly).

Staggered Harvesting of Long-Cycle Plants

Vegetables such as brassicas (kale, curly kale, and others) are ideal for continuous staggered harvesting: by picking the lower leaves, the plant will continue to grow producing new leaves at the top.

Harvesting Fruiting Vegetables

For fruiting plants (cherry tomatoes, chilli peppers, and similar), timings are longer, but you will easily be able to recognise when to harvest. In most cases you will simultaneously see ripe fruit, developing flowers, and small fruit ripening. The plant's cycle will end when it stops producing flowers or drops them naturally.

8.3 — Removing a Plant from the Tower

To remove a vegetable from the tower, take the net pot at the base and pull gently upwards. If the roots are tangled with those of neighbouring plants, try to untangle them patiently rather than pulling, so as not to damage plants that are still growing and to avoid leaving root debris in the tower.

8.4 — Managing the Freed Slot

After removing a plant, you will have a free slot. The best solution is to immediately transplant a new seedling from the seedling tray. If you do not have any ready, cover the hole to prevent light from penetrating the tower and encouraging algae to form.

Chapter 9 — Rotation Sowing for Continuous Production

As you saw in the previous chapter, the goal of home growing is not simply to make plants grow, but to achieve continuity, consistent quality, and constant quantity over time.

To achieve this, sowing just once is not enough: you need to organise production so that there are always plants at different stages of growth. This is where rotation sowing comes into play.

9.1 — The Infinite Harvest Formula

We have adopted a method, tried and validated by many home growers, based on two simple rules.

The 1/4 Rule — How Much and When to Sow

- Sow **every 2 weeks**.
- Sow **1/4 of the capacity** of your tower (example: 9 seedlings for a 36-slot tower).

What to Sow

Of the quantity just determined:

- Allocate **3/4 to fast-growing plants** (lettuces, chard, rocket, pak-choi).
- Reserve **no more than 1/4 for slow-growing plants** (tomatoes, chilli peppers, celery).

This balance prevents the tower from being occupied by too many long-cycle plants, with the real risk of having nothing to harvest for weeks.

NOTE

The goal should always be to keep the tower full and the seedling tray stocked with ready seedlings. Do not be afraid to leave a seedling a little longer in the seedling tray: it is better to let it wait and grow a bit more, rather than transplanting it when it is not truly ready.

Chapter 10 — Full Harvest and Closing the Cycle

During growing, in most cases you proceed with staggered harvesting and gradual plant replacement. However, there are situations where it may be useful or necessary to carry out a full harvest, emptying the tower to start afresh.

10.1 — When to Do It

A full harvest is not an obligation, but a choice. It may make sense when:

- You want to change the type of crop (for example, switching from leafy vegetables to fruiting ones).
- The plants have completed their cycle and production has dwindled.
- The tower has become too disorderly or difficult to manage.
- You want to restart with a completely clean system.
- You have encountered problems (root blockages, imbalances, irregular growth).

10.2 — How to Proceed

1. Remove all the plants from the tower.
2. Completely empty the reservoir of the nutrient solution.
3. Remove any root debris or organic matter.
4. Give the tower and its components a general clean.

There is no need to be obsessive about it: the goal is to restart with a clean system, not a sterile one.

10.3 — Starting Again the Right Way

Once the tower is empty, fill it with fresh water, prepare a new nutrient solution, and insert the ready seedlings from the seedling tray. If you have followed rotation sowing, this step will feel natural: whilst one cycle ends, you will already have plants ready to begin again.

The full harvest is not the end of growing, but a physiological phase of the cycle. It serves to restore order, re-establish balance, and restart in the best possible conditions.

Chapter 11 — Periodic Maintenance and System Cleaning

A well-established and correctly managed hydroponic tower does not require frequent intervention. One of the most common mistakes is intervening too often, risking destabilising a system that is working well. The goal is not to clean constantly, but to maintain balance over time.

11.1 — Routine Maintenance (every 2–3 days)

During normal use, simply observe the general condition of the tower: remove any dry leaves, check that the pump is working correctly, and visually monitor plant development. These are quick checks, requiring just a few minutes, and they allow you to prevent problems before they arise.

11.2 — Nutrient Solution Change (every 4–6 weeks)

Even in the absence of obvious problems, it is advisable to completely replace the nutrient solution on a regular basis. Over time, some elements are absorbed more quickly than others, whilst others may accumulate. Changing the solution allows you to restore the correct balance.

If the tower shows signs of imbalance (slowed growth, out-of-range values, struggling plants), the solution change can be brought forward.

11.3 — Full Maintenance (at end of cycle or every 6–8 months)

Periodically, or at the time of a full harvest, a more thorough clean may be useful. Empty the reservoir, rinse the main components, remove any organic residue, and check the condition of the pump and tubing. A simple but careful clean is more than sufficient.

11.4 — What You Don't Need to Do

There is no need to sterilise the system at every cycle, nor to use harsh products or fully disassemble the tower frequently. A simple and regular approach is more effective and sustainable over time.

When light, nutrition, and environmental conditions are consistent, the system tends to remain stable. Over time, direct observation of the tower will tell you when to intervene.

Chapter 12 — Plant Signals (and Tower Signals)

Observing the plants, the seedling tray, and the tower provides invaluable information. It is not necessary to know every possible problem: in most cases, a few key signals are enough to understand whether the system is in balance.

12.1 — Signals from the Seedling Tray

Seeds That Do Not Germinate

Failed germination can be caused by several factors: cubes that are too wet or too dry, temperature out of range (ideal 20–25°C), inadequate humidity, or incorrect pH. Each species has different timings (parsley, for example, is notoriously slow). After approximately 14 days, it is reasonable to consider the seed as having failed to germinate and to proceed with a fresh sowing.

Pale Leaves

In a well-set-up seedling tray, the causes are generally two: excess water in the cube (the roots have insufficient air) or incorrect pH. In the first case, reduce watering; in the second, correct the pH.

Slow Growth of the First True Leaves

When the first true leaves appear, water alone is no longer sufficient. Very slow growth is almost always linked to insufficient nutrition: it is time to start with a light nutrient solution (see Chapter 4).

Algae on the Cube

Green algae are not particularly harmful, but it is preferable to limit their formation. They develop when the cube is watered from above and remains exposed to light. Watering from below (by immersion) and gently rinsing the cube before transplanting are the best practices.

Roots Emerging from the Bottom

This is a positive signal. It indicates that the seedling is healthy and that the root system is active. At this stage the plant is generally ready for transplanting into the tower.

12.2 — Signals from Plants in the Tower

Burnt Leaf Tips

In most cases this indicates an excess of nutrients (EC too high). Observe whether the problem is widespread (reduce the EC slightly) or affects only certain plants (possible incompatibility with other crops in the tower).

Slowed Growth

If plants that normally grow quickly are growing slowly, there may be an imbalance in the nutrient solution. Often the most effective solution is a complete nutrient change.

Excessive Vegetative Growth (Fruiting Plants)

When a plant develops a large amount of leaf mass at the expense of fruit production, the most common causes are nutrition that is too orientated towards vegetative growth, or very favourable conditions that push the plant to expand before fruiting. You can intervene with light pruning, favouring productive branches.

Plants of the Same Species Growing at Different Rates

The most frequent causes are root competition and shading by larger plants. You can consider reorganising the tower or bringing forward the harvest of the most developed plants.

Plant That Is Stretching Excessively

A typical signal of insufficient light: the plant tends to stretch to “seek” more light. It is not always serious, but it indicates that the distribution of plants could be improved.

Brown Spots on Leaves

These may indicate a potassium deficiency. If the phenomenon is widespread, it may be useful to slightly increase the Bloom component in the nutrient solution.

Brown or Rotten Roots

Rotten roots indicate a serious problem. Remove the affected plant immediately and consider a full system clean.

For roots that are simply dark (but not rotten), you can treat with 3% hydrogen peroxide (oxygenated water), at a maximum dose of approximately 4 ml per litre. Add it to the reservoir and circulate for several minutes before reactivating the normal pump cycle.

IMPORTANT

To prevent these problems it is essential to maintain good oxygenation of the reservoir.

12.3 — Signals from the Tower

Abnormal Pump Noise

A discontinuous or “dry-running” noise indicates that the water level is too low. Always check the level with the pump running (to visualise the actual minimum level when the water is circulating).

Reduced Water Flow

If little water is coming from the top of the tower, the most frequent cause is roots inside the pump. Disconnect the power supply, disassemble the pump, remove the debris, and clean it.

Algae in the Tower

Small quantities can be removed manually. If they become more significant, you can treat with hydrogen peroxide (as described above), without overdoing it: the peroxide does not only eliminate harmful organisms.

Tower Less Well-Lit

Often this is not a problem of light but of plant density. Overly developed plants create shaded areas that disadvantage smaller ones. In these cases, thinning the vegetation or reorganising the arrangement is the solution.

NOTE

This chapter deliberately omits certain issues which, when using the Idroponica Facile system correctly, are unlikely to arise.

Chapter 13 — The Most Common Mistakes

The mistakes listed in this chapter should not alarm you: they are part of the journey. The Idroponica Facile system was designed precisely to help you avoid many of the mistakes we have already made. And the good news is that, in a well-set-up system, they are simple to recognise and correct.

13.1 — Approach Mistakes

- **Intervening too often** *Better to do less, but do it right.*
- **Growing “a bit of everything” without consistency** *It is important to pair plants with the same requirements.*
- **Changing multiple variables at once** *Start with the most important, wait for the results, then proceed with the others.*
- **Seeking the “perfect recipe” instead of observing** *Theory provides the foundations, but it is direct observation that makes the difference.*

13.2 — Nutrient Mistakes

- **Not measuring EC and going by “instinct”** *With top-ups you need to compensate, not just refill.*
- **Not adapting nutrition for leafy and fruiting plants** *The TriPart formulations are an excellent base only when correctly paired.*
- **Adding nutrients without checking the pH** *Feeding is not enough if an incorrect pH prevents root absorption.*
- **Correcting too quickly (sudden EC or pH jumps)** *Plants cope better with gradual changes.*
- **Never doing a complete solution change** *Accumulated residues can render even a perfect top-up ineffective.*
- **Confusing EC and PPM on the EC/TDS pen** *This happens often: always verify that the display shows $\mu\text{S}/\text{cm}$.*

13.3 — pH Mistakes

- **Ignoring it completely** *It may seem tedious at first, but the plants will benefit greatly.*
- **Correcting it too often** *Plants tolerate a small imprecision better than constant adjustments.*
- **Measuring with an uncalibrated pen** *Calibrate the pH meter periodically (approximately every 2 months).*
- **Not knowing that pH moves on its own** *Even after a perfect adjustment, pH can vary due to natural causes.*

13.4 — Light Mistakes

- **Placing short plants behind tall plants** *Plan the arrangement to avoid shading.*

- **Not pruning or harvesting when necessary** *Overly large plants disadvantage their neighbours and lose quality.*
- **Running too few hours of light** *Saving a few pence in electricity costs dearly in terms of production.*
- **Running too many hours of light or leaving it on constantly** *15 hours is the ideal duration for most plants.*

13.5 — Growth Management Mistakes

- **Letting plants grow without monitoring** *The towers are automatic, but the plants need attention.*
- **Thinking “more leaves = more production” (for fruiting plants)** *Targeted pruning improves light, aeration, and production.*
- **Not assisting pollination** *With cherry tomatoes and peppers, simply giving the flowers a gentle tap is enough.*
- **Letting plants age in the tower** *Old plants slow down rotation and take resources from the others.*
- **Underestimating root competition** *Too many large plants risk clogging the system.*

13.6 — Seedling Tray Mistakes

- **Too much water** *The cubes should be moist but not waterlogged.*
- **Too little water** *Young plants have small roots and limited independence.*
- **Leaving the dome on too long** *The very humid environment is only useful during the germination phase.*
- **Transplanting too late** *Seedlings can remain in the seedling tray, but they must be monitored.*

13.7 — Water Management Errors

- **Letting the level drop too low** *In addition to nutritional imbalances, you risk damaging the pump.*
- **Using water that has not been left to rest** *Get into the habit of always keeping a supply of rested water on hand.*
- **Ignoring water temperature** *The ideal is between 18–21°C, the tolerable range is 15–23°C.*

13.8 — Oxygenation and Aeration Mistakes

- **Underestimating the importance of air for the roots** *The more the plants grow, the more oxygenation is needed.*
- **Plants too densely packed in the tower** *This is not just a shading problem: the leaves need to breathe. A fan providing a gentle air flow directed at the tower offers multiple benefits.*

13.9 — Maintenance Mistakes

- **Never cleaning the system** *Major interventions are not needed, but the essential ones must be carried out.*
- **Putting off the complete change** *A complete solution change brings enormous benefit.*
- **Green algae panic** *It is worth preventing and removing it, but it causes real damage only when it proliferates significantly.*

13.10 — Mistakes That... Aren't

Some situations may appear problematic, but are in fact entirely normal:

- **Imperfect leaves:** we are accustomed to the perfection of shop-bought vegetables, which are selected precisely for their appearance.
- **Normal signals mistaken for deficiencies:** sometimes a plant with “burnt” tips is simply old.
- **Plants of the same species growing at different speeds:** this is entirely normal, even starting from the same seeds.
- **Slight loss of vigour after transplanting:** the plant must adapt its roots to the new environment and greater nutrients. This is a temporary phase.

Chapter 14 — Frequently Asked Questions (FAQ)

On our website, on our social channels, and offline too, we frequently receive recurring questions: we have gathered them here.

14.1 — General Questions

What is a hydroponic tower used for?

It is used to grow vegetables, salad leaves, herbs, and some compact fruiting plants without soil. The roots receive water and nutrients in a controlled manner, with a remarkable saving of space compared to traditional growing.

Is a hydroponic tower suitable for beginners?

Yes, especially if the system is as easy to manage as those from Idroponica Facile. It is sufficient to periodically check the water level, the EC, and the pH.

What can be grown?

Lettuces, basil, rocket, spinach, chard, and many other leafy vegetables. Some towers also accommodate strawberries, chilli peppers, and compact cherry tomatoes.

What cannot be grown?

Very bulky crops or those with invasive root systems (courgettes, melons, potatoes), and very heavy vegetables or vigorous climbers.

How much does it cost per month?

Energy consumption is approximately €6 per month for lights, pump, and oxygenator. Adding nutrients and water, the total cost is approximately €10 per month. Monthly production can be worth €50–100 in fresh vegetables.

Where can I position a tower?

Practically anywhere: indoors, in a cellar, in a garage, on a balcony, or in a garden. All you need is roughly half a square metre and a mains socket. If natural light is lacking, the LED lights compensate perfectly.

How much time does management require?

A few minutes per week to check water, pH, and any top-ups. Once up and running, the tower is a self-sufficient system.

Is managing pH and nutrients complicated?

No. With the pen meters you can immediately check the values and corrections are simple and quick. After a short while it becomes second nature.

Are the towers noisy?

No, a well-configured tower is very discreet. The main sound is that of the circulating water, similar to a small tap, and it is only heard during the pump cycles.

14.2 — Green Leaf Tower

How long before I see the first results?

Generally after approximately 20 days from transplanting for the first outer leaves. After 30–35 days the first complete harvests also arrive.

What yield can I expect?

Once the continuous cycle is under way, the monthly yield has an indicative value of approximately €50 to €100 in fresh produce.

Is it sufficient for 2 people?

Yes. With 36 slots and staggered sowing, a well-managed tower covers a large part of the salad and leafy vegetable needs of a couple.

If I make a mistake, do I have to start from scratch?

No. In most cases it is sufficient to correct the pH or nutrients. Only the most delicate plants might suffer, but the others recover quickly.

What happens if I neglect it for a few days?

If you check the water and nutrients before leaving it, the tower can run autonomously for several days without problems.

14.3 — Fruiting Tower

Does managing it require experience?

It is suitable for beginners too, but requires a little more attention than the Green Leaf towers. With the right initial guidance, it becomes straightforward.

Don't the plants become too large?

No, if you choose compact varieties and manage growth with light pruning.

Is it necessary to assist with pollination?

Yes, in an indoor environment it is advisable to give the flowers a gentle vibration or use a small brush. It is an operation of just a few seconds.

How long before I see the first fruit?

The first flowers arrive within a few weeks; the first fruits are generally harvested after 5–8 weeks, depending on the variety.

How much production can I expect?

With the right varieties, several dozen fruits per plant during the cycle, with regular harvests over time.

14.4 — Outdoor Tower with Natural Light

Is protection needed in case of heavy rain?

Yes, in the event of heavy rain a light cover is advisable to avoid excessive dilution of the nutrients.

What happens in strong wind?

The tower, especially if tall and with developed plants, can act like a “sail”. Position it in a sheltered area and, if necessary, secure it to a support (railing, wall).

How does it behave in summer heat?

It works well, but on the hottest days check the water level more frequently and prevent the reservoir from overheating.

Is it possible to move it during the season?

Yes, preferably when the reservoir is not completely full. A wheeled support makes moving easier and raises the tower off a hot floor.

Appendix A — Your First 30 Days

This timeline summarises the main milestones from sowing to first harvest. The timings are indicative and may vary depending on the species and environmental conditions.

Day 0 — Pre-Sowing

Prepara l'arested water, correggi il pH a 5.8–6.0 e immergi i cubetti di lana di roccia.

Giorno 1 — Sow

Place the seeds in the cubes, cover with vermiculite, close the trays with the dome, and switch on the seedling tray LED lights.

Days 2–5 — Germination

Check daily: remove the dome for 10 minutes a day to allow air circulation. Mist with pH-corrected water if the cubes are drying out.

Giorni 5–10 — Cotyledons

The first two small leaves appear (cotyledons). Open the dome vents. Prepare a light nutrient solution (EC 0.6).

Giorni 10–18 — First True Leaves

Remove the dome permanently. Begin feeding the seedlings with the light solution (spray or immersion method). In the meantime, assemble the tower (Chapter 5).

Days 18–22 — Transplanting

When the seedlings have 3–4 true leaves and roots protruding by at least 3 cm, transplant them into the tower. Prepare and pour the nutrient solution into the reservoir (Chapter 6).

Days 22–30 — Growth in the Tower

Check EC and pH every 2–3 days. Monitor the water level. Observe the plants: a slight loss of vigour in the first few days after transplanting is normal.

Day 30+ — First Harvest

Begin staggered harvesting of the outer leaves. Sow a new batch to maintain the rotation (Chapter 9).

Appendix B — Reference Tables

Table 1 — pH and EC of the Most Common Vegetables

This table shows the recommended EC and pH values for the vegetables most commonly grown in hydroponic towers. The data are ordered by increasing EC.

Vegetable / Herb	EC min–max (mS/cm)	Recommended pH
Lamb's lettuce / Corn salad	0.8 – 1.2	6,0 – 7,0
Rosemary	0.8 – 1.6	5,5 – 6,5
Thyme	0.8 – 1.6	5,5 – 6,5
Cut lettuces	0.8 – 1.6	5,8 – 6,2
Sage	1.0 – 1.6	5,5 – 6,5
Dill	1.0 – 1.6	5,8 – 6,2
Basil	1.0 – 2.0	5,8 – 6,2
Rocket	1.0 – 2.0	5,8 – 6,2
Parsley	1.0 – 2.0	5,8 – 6,2
Head lettuces	1.2 – 1.8	5,8 – 6,2
Mizuna	1.2 – 2.0	5,8 – 6,2
Endive / Escarole	1,5 – 2.0	5,8 – 6,2
Spring onions	1,5 – 2.5	6,0 – 7,0
Pak-choi	1,5 – 2.5	6,0 – 7,0
Kohlrabi	1,5 – 2.5	6,0 – 7,0
Chives	1.6 – 2,2	6,0 – 6,8
Spinach	1.8 – 2.3	6,0 – 7,0
Swiss chard	1.8 – 2.3	6,0 – 7,0
Mint	1.8 – 2.4	5,8 – 6,2
Celery	1.8 – 2.4	6,0 – 6,5
Peppers	2.0 – 3.0	5,8 – 6,2
Cavolo nero	2.0 – 3.0	6,0 – 7,0
Curly kale	2.0 – 3.0	6,0 – 7,0
Cherry tomatoes	2.0 – 3.5	5,8 – 6,2

Table 2 — Recommended Seeds per Cube

Guidance on how many seeds to place in the cube for each vegetable.

With experience you will be able to adapt these values.

Vegetable	Seeds per cube	Diradamento*	Note
Lettuce	2–3	Optional	Excellent germination
Rocket	4–5	No	Small seeds, rapid germination
Lamb's lettuce/Corn salad	4–5	No	Excellent germination
Endive/Escarole	1–2	Si	Small seeds, rapid germination
Basil	2–3	No	Small seeds, medium germination
Spinach	1–2	Si	Large seeds, reliable germination
Swiss chard	1–3	Optional	Medium seeds
Kale (cavolo nero/curly)	1–2	Si	Large plant, one seed is enough
Cherry tomato	1–2	Si	Select the most robust seedling
Chilli pepper	2–3	Optional	Slow germination
Parsley	3–4	No	Very slow germination
Pak-choi	2–3	Optional	Rapid germination

NOTE the number of seeds indicated is designed to maximise the germination rate. Once germinated, in many cases you can choose whether to select just one plant and let it develop to its full potential (as with a head lettuce), or let them all grow for an early harvest as cut leaves.

*Thinning: selecting the best seedling by removing the others

TIP When thinning, if you remove the excess seedlings very gently (without tearing the roots), you can transplant them into a new cube and thus obtain new plants that are already germinated.

Appendix C — Growing Record Sheet

In this sheet you can record the dates of your sowings and transplants, so that you always have a clear picture of the ripening timescales and full control of your growing.

You can scan or photocopy it from the back of the guide, or download it at the link www.idroponicafacile.com/scheda-di-coltivazione

Vasoio n° 1

Tipo: <u>Lattuga Trocadero</u> Semina: <u>15/04/24</u> Trapianto: <u>03/05/24</u>	Tipo: <u>Lollo Rossa</u> Semina: <u>15/04/24</u> Trapianto: <u>03/05/24</u>	Tipo: <u>Biete da Taglio</u> Semina: <u>15/04/24</u> Trapianto: _____	Tipo: <u>Pak-Choy</u> Semina: <u>15/04/24</u> Trapianto: _____
Tipo: <u>Prezzemolo</u> Semina: <u>15/04/24</u> Trapianto: _____	Tipo: <u>Basilico</u> Semina: <u>15/04/24</u> Trapianto: _____	Tipo: <u>Lattuga Trocadero</u> Semina: <u>15/04/24</u> Trapianto: <u>03/05/24</u>	Tipo: <u>Lollo Rossa</u> Semina: <u>15/04/24</u> Trapianto: <u>03/05/24</u>
Tipo: <u>Biete da Taglio</u> Semina: <u>15/04/24</u> Trapianto: _____	Tipo: <u>Pak-Choy</u> Semina: <u>15/04/24</u> Trapianto: _____	Tipo: <u>Lattuga Trocadero</u> Semina: <u>15/04/24</u> Trapianto: <u>03/05/24</u>	Tipo: <u>Lollo Rossa</u> Semina: <u>15/04/24</u> Trapianto: <u>03/05/24</u>

Glossary

Term	Definition
Rested water	Tap water left to stand for at least 24 hours in an open container, to allow the chlorine to evaporate.
Fruit set	The process by which a pollinated flower develops into fruit.
Expanded Clay	A lightweight granular material used in net pots to protect the cubes from light and support the stems.
Barre LED	LED lights mounted on the tower that provide the light energy needed for photosynthesis.
Crown	The point on the plant from which the leaves branch out, located at the base of the stem.
Cotyledons	The first two small leaves that appear at germination, different from the subsequent “true” leaves.
EC (Electrical Conductivity)	A measure of the quantity of mineral salts (nutrients) dissolved in the water. Expressed in mS/cm.
Etiolation	Excessive elongation of the seedling stem, caused by insufficient light.
FloraBloom	The TriPart component that promotes flowering and fruiting.
FloraGro	The TriPart component that stimulates vegetative growth.
FloraMicro	The TriPart component that provides essential micronutrients and calcium.
True leaves	The leaves that appear after the cotyledons, with the characteristic shape of the species.
Rockwool	A fibrous growing medium used as support for seed germination in hydroponics.
Bolting	Premature and unwanted flowering caused by stress (heat, excessive light), which reduces harvest quality.
Net pot	A plastic mesh basket that holds the cube with the seedling and slots into the tower’s growing positions.
Oxygenator	An air pump that keeps the nutrient solution in the reservoir oxygenated.
pH	A measure of the acidity or alkalinity of a solution. Scale from 1 to 14; in hydroponics the ideal range is 5.8–6.2.
pH Down	An acidic solution by Terra Aquatica used to lower and stabilise the pH of the nutrient solution.
PPM (Parts Per Million)	An alternative unit of measurement to EC. In tower growing, EC ($\mu\text{S}/\text{cm}$) is preferred.
Pythium	An opportunistic pathogen that can cause root rot, favoured by high temperatures and poor oxygenation.
Staggered harvesting	A harvesting method that involves picking the outer leaves whilst leaving the plant’s core intact to continue producing.
Nutrient solution	Water enriched with mineral nutrients and pH-corrected, contained in the reservoir at the base of the tower.
Green Leaf Tower	Idroponica Facile hydroponic tower optimised for leafy vegetables, equipped with White Light LED Bars.

Term	Definition
Fruiting Tower	Idroponica Facile hydroponic tower optimised for fruiting vegetables, equipped with full-spectrum LEDs.
TriPart	A three-component fertilisation system (Micro, Grow, Bloom) by Terra Aquatica / GHE.
RH (Relative Humidity)	The percentage of water vapour present in the air. It influences transpiration, nutrient absorption, and pollination.
Vermiculite	A fine-grained expanded mineral, used to cover seeds in the cubes after sowing.

Conclusion

This guide ends here, but it is a beginning, not an ending.

With the Idroponica Facile kits you have all the tools. With this guide you have all the information. As we promised, growing at home really can be easy.

And even if you make the occasional mistake along the way, you will know exactly how to put things right.

Happy growing!

Mirko Rossi

www.idroponicafacile.com

Tray No.

Type:

Sowing:

Transplanting:

Type:

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