

# Growing outdoors for beginners.

What do I need to know to grow outdoors?







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# What do I need to know to grow outdoors?



## Tips to get started.

Before you start your first cultivation, you need to make some choices. Each one of these will lead to certain advantages and drawbacks. In this topic we'll give you tips and help you with a summary of the first questions that you need to answer for your growing plan.



# Have a plan and start small.

You'll get the most fun out of growing outdoors if you plan ahead a bit. You can start by buying the stuff you'll need and preparing certain things before the big moment to start comes.

## Answer these questions for yourself:

Which plants do I want to cultivate? You'll need seeds or cuttings of that species, which you can buy or order at a lot of different stores and webshops.

Do you want to cultivate in open ground or in pots? Both methods have their pros and cons and your shopping list will look different in both cases. If you start from seed, you'll have to germinate the seeds in a germination box like a seedtray with a lid. When the seedlings grow, you'll have to transplant to bigger pots until they can move outside.

Where will you locate your plants outside? For growing in open ground, this is an important choice since you won't be able to move your plants later. Pots don't have this problem, but they do limit the maximum growth of your plant. Basically, you want to find a sunny spot where you can keep the soil moist. If you grow in pots you'll have to keep them out of the wind for quite some time. At the end of the flowering phase, on the other hand, you will want to have the wind. It prevents mold building on your fruit.





# What does an outdoor cultivation look like?

Once you've made your choices and bought your first supplies, you'll have to wait for the right moment to start. What does the rest of the cultivation look like, now? A plant's life has several phases, each of which requires different care and nutrition.



## **Germination.**

You plant seeds and germinate these in germination boxes or mini greenhouses. You can do this from the end of February to the middle of May. After germination you can transplant the little seedlings to small pots. You could also skip germination by starting with seedlings or cuttings

## **Growth phase.**

During this phase the plant will form most of the greens that are above ground. In outdoor growing the growth phase generally lasts longer than indoors. From April onwards there will be enough daylight in one day to move your plants outside. But it can still be too cold, which is a problem. Once the middle of May has passed, temperatures will no longer dip below freezing at night. You can now move your plants outside. Whether you want to do this right away or wait a little longer depends on the flowering period of your plant variety. Short flowering plants can stay inside a bit, while plants with longer flowering can now move out.

## **Flowering phase.**

Depending on the species of plant and length of flowering of the variety, your plant will begin to flower around July to August. Once it's flowering, it will also form blooms and fruit. Again depending on the length of flowering, you'll have your harvest around the end of August or the start of October.



# What is the best time to get started?

You'd think it's best to start when winter is over and the sun has made its return, but you'd miss out on some valuable months if you did that. You can get a head start in February by beginning to germinate your plants. Besides, you can already prepare the soil outside if you're planning on growing in open ground.

## From the first seed.

If you're cultivating from seed, you'll germinate seeds first. You can put the seeds in a seed tray with soil, but be sure to use seeding and cutting soil, like Plagron's specific product. Don't put too many seeds in one compartment. Around four seeds to a compartment are enough. Alternatively, you could germinate on cocoplugs, like those in Plagron's Seedbox. Within ten days, you'll have little plants: seedlings. The soil in an uncovered seed tray will get dry quickly. A germination box with a plastic lid is your best option, since this will preserve humidity. After a short while your young plants will need more room. Transplant them all to their own little pots and put them in a light spot in a heated room, for example at a south facing window.



## Preparing the soil.

Even outside, you can already prepare things in February. If you're planning to grow in open ground, you could look into improving your soil. Professional cultivators advise to break up the soil and mix in compost, fertiliser or even worms. These products add nutrients to the soil and improve the structure of the ground. This gives a plant more room to spread its' roots and improves the water holding capacity, drainage and airiness of the soil. Some species of worms even make their own 'humus', which is very beneficial to plantlife. You can bring all these advantages home if you use Plagron Mega Worm in your garden. Just break up the soil and mix in Mega Worm according to the instructions on the bag.





## Ready to get out there.

Once it's the middle of May and your seedlings have turned into young plants in the growing phase, they can move outside. Had you started with seeding or planting only now, you'd have missed out on several months of growth. Then again, nothing is stopping you from germinating or raising another batch of plants so you can enjoy another harvest later on in the summer.

# Pros and cons of growing plants outside.

The biggest advantage of growing outdoors is obvious: your plant gets free light and water. This has a drawback in itself, though, because you cannot control the light source (the sun) or the quantity of rainwater. There can be too much rain in a short time, and at other times it can be very hot and dry for a long time. Both situations are detrimental to your plants

## The good.

- Basic requirements of your plants are free.
- Your project doesn't take up space inside.
- Soil structure in the garden is often reasonable to begin with.
- You can plant in a bigger plant hole outdoors.

## The bad.

- Less control over temperature and amounts of water and light.
- Plants can be damaged by extreme weather situations or insects.
- Some of these problems can be helped by cultivating in pots. But pots will limit the maximum size your plant will reach.





# What influence does nature have?

A plant has some basic needs: light, water, carbon dioxide, a nice temperature and humidity. By growing outdoors you get all these basics for free. This is awesome, but there's a catch: you don't control how much of these basics you get. Apart from that, your plant is also exposed to weather extremes.

## Too much is always wrong.

The weather doesn't care about your cultivation plan. The climate in which your plants grow can't be controlled. One day it will rain and the next, the sun may shine. Your plants will adapt their growth to the situation. The rule of thumb is simple: too much of one thing is never good. Sunlight is essential, but if things are too hot and bright for a long time your plants will not be able to absorb nutrients as well. The plant will reduce leaf surfaces (shriveling) to cut down on moisture evaporation. This is a natural reaction of the plant to protect itself in an environment with no rain. On the other hand, too much rain falling and sinking into the soil will reduce the amount of oxygen. This may increase the chances of roots rotting and it will inhibit your plants' growth.





## How to protect your plants?

- Initially, you need to be sure that your seeds are comfortable being raised outdoors. This is especially important if you want to move the plants outside fairly early, around the middle of May. You need plants that can handle lower temperatures.
- Once your plants are outside, you need to ensure they get enough water without being too wet or too dry. Preference for watering are different for each species and variety, so read the description when buying seeds
- Ensure your ground has good drainage and use soil improving products. These measures can make an excess of water reasonably controllable. The amount of sun is more difficult to control, especially when plants are fixed in open ground. But pots can be relocated out of the sun. This has the added advantage that you can move your plants to a safe spot in case the weather turns bad, with hard rain, stormy wind or hail.
- You can use a rain barrel to compensate for dry periods. By storing the water when it falls, you have a ready supply when it's dry. Be aware that a rain barrel can be a breeding place for insects and microbes.



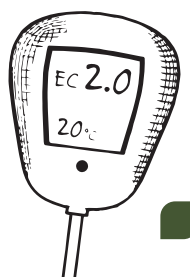


# Basic definitions you need to know.

Like every other hobby, growing plants has its own jargon. When you first start looking into growing methods, soil, pots and different types of nutrients, you get hit with a lot of terms. What is a substrate? Why does it have an EC value and what do these numbers mean to you?

**Below, we'll give you the most important basic definitions.**

- **Substrate.** The medium that you grow your plants in. This can be a soil or peat based substrate, but there are alternatives based on coconut fibers or clay pebbles. A beginning grower is generally will served by a pre-fertilised soil substrate. This means you don't have to use nutrients in the first weeks and the soil structure is already good.
- **NPK.** This abbreviation is made up of the elemental name for nitrogen (N), phosphorus (P) and potassium (K). Plants need these elements to grow and flower, but they require them in different combinations and amounts throughout their lives. That is why fertiliser products always show an NPK value. This gives you a picture of the combination of the nutrients. Extra phosphorus and potassium are always important during flowering.
- **EC value.** The term 'EC' is short for electro conductivity. Water conducts electricity more effectively if there are more salts in the water. These salts, also known as electrolytes, are contained in basic plant nutrition. So EC value also expresses the concentration of nutrients in your nutrient solution. EC values are expressed in micro- or milli-Siemens per centimeter. You can measure this with an EC meter in water, but measuring the EC in the soil is more difficult. Soil retains part of the nutrients and you will have to perform an extraction of a sample. More on this method later. Every Plagron growing style has its' own recommended EC values. You can find these in the Grow Schedules.





- **PH value.** The pH value is used to express the acidity of soil or water. It's an important value to be aware of, since each species of plant has a minimum of maximum acidity that it's comfortable with. Soil can be acidic, pH neutral or chalky. The acidity of the soil is determined by the presence of chalk in the ground. Sandy and peaty soils are usually more acidic than clay, because there's less chalk in them. The pH value is expressed in a rising scale, which runs from pH 1 to pH 14. PH 1 is extremely acidic and irritating and pH 7 is completely neutral. A pH value that's too low will inhibit the nutrient uptake of the plant. Each element is optimally absorbed within a certain range of pH. Outside of that range, these nutrients will be taken up less effectively or not at all.
- **Growth phase.** After it's time as a seedling, this is the first life phase your plant goes through. If you cultivate indoors and ensure enough (artificial) light and good nutrition, the growth phase will only last a few weeks. Outdoors, this will take longer. During the growth phase, plants create more root branchings and most of the green parts that are above ground.
- **Flowering phase.** Once the days get shorter and daylight hours lessen, plants will flower and form fruit. Essentially, this is a procreation mechanic. The shortening days mean that winter is coming and it's time to create flowers and fruit so the next generation of plants can be spread. For you as a grower, it means a nice harvest!





# What do I need for outdoor growing?

## Do I need a substrate?

The answer depends on your choice of growing in pots or in open ground. In the last case, you already have the soil and you don't need a substrate as such. You can however improve the soil with certain products. If you want to grow in pots, however, you're going to need a substrate. Bu which one do you use?



## Choosing a substrate.

The choice of a substrate is an important decision for a grower. You need to take into account the goal of your cultivation, your own experience and your budget. Every substrate has specific properties and affects your plants in different ways. For the beginning grower, a peat based substrate with rich microbiological life and several weeks prefertilisation is recommended. Ideally the substrate is designed to work with organic fertilisation.

A more experienced grower could use shorter prefertilisation and mineral nutrients. This combination is geared towards larger and quicker harvests, but it's harder to use because the grower will have to check and control the pH values closely.

### Plagron has two grow styles with peat based substrates:

- **100% NATURAL.** With one exception all substrates in this grow style are prefertilised for six weeks. You get the best results in combination with the algae based, organic nutrition Alga Grow and Alga Bloom. This grow style is focused on the best quality of your end product and it's very suitable for first time growers. These substrates contain a lot of peat, which gives them a high water retention capacity. This means you'll have to water your plants less frequently, like once every three to five days. Be careful not to over water your plant, since this will leave the substrate too moist.
- **100% TERRA.** These substrates are prefertilised for much shorter periods and they are designed to work with the mineral nutrients Terra Grow and Terra Bloom. This combination is focused on a large harvest in a shorter time, but it also has a drawback: it's a little harder to use. You need to keep track of the pH value. Every mineral has an ideal pH range for optimal uptake by the plant. If the pH value falls out of this range the roots can't take up the specific mineral. This means the plant won't get the necessary nutrients and it might develop deficiency symptoms. Always check the pH value of your nutrient solution and bring it to pH 6. Ideal pH for your substrate is between 6.0 and 7.0.



Apart from soil based substrates, there are alternatives made of coconut fiber or clay pellets. These are more suitable for advanced growers, because they work best with two component mineral nutrients and a hydrological watering system.



# Do I need basic nutrition?

Plants need certain elements to reach flowering. Three of these elements can be gotten from air and water: carbon, hydrogen and oxygen. But apart from these, a plant needs other essential nutrients. An element is called essential if a plant cannot complete its life cycle without this element and no other element can take over its role. To supply your plants with these nutrient elements, you need an NPK plant fertiliser.

## NPK nutrition.

Nitrogen, phosphorus and potassium are the best known nutrients that plants require. But you're not done with only these three elements because your plants need several others in order to grow and flower. Sure, they need less of each of these elements, but they're still essential to the end result of your harvest. Plagron's basic nutrients provide your plants with these minerals.





## Secondary nutrients.

- **Calcium.** Helps with nutrient uptake and increases the stability of the cell wall.
- **Magnesium.** This is a component of chlorophyll, it stimulates photosynthesis and the transportation of potassium.
- **Sulphur.** Essential to the formation and transportation of proteins. It also catalyses the production of chlorophyll and is good for the taste of your end product.

## Micronutrients.

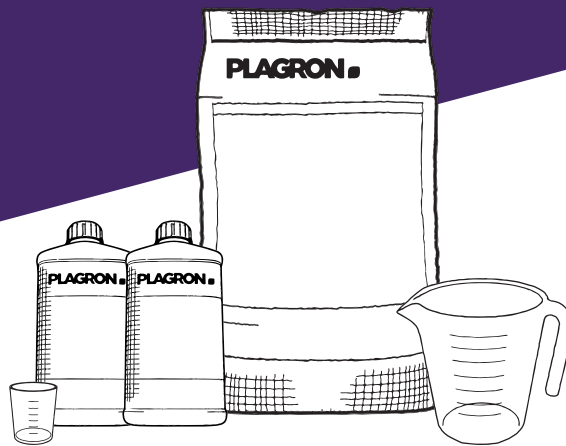
- **Iron.** Helps with the production of chlorophyll, proteins and carbohydrates.
- **Molybdenum.** Promotes the uptake of nutrients and transforms nitrates (nitrogen) into amino acids.
- **Copper.** Important to carbohydrate and protein metabolism. Strengthens cells.
- **Zinc.** Forms growth hormones like auxine and influences the production of chlorophyll.
- **Manganese.** Promotes cell division (mitosis) and enhances the plants' metabolism.
- **Boron.** Important to the formation of the cell walls. It also assists in the regulation of water flow.
- **Silicon.** One of the building blocks of cell walls.





# Do I need additives?

Additives are a bonus. A plant has a number of basic requirements: light, water, carbon dioxide, a nice temperature and humidity. If these requirements are fulfilled and you're also providing basic nutrition, you do not necessarily need additives. However, they can give your plants a good bit of help, especially in the early phase and around the end, during flowering. At these moments you can help with the formation of a root system and with fructification. But there are other problems you can encounter while growing your plants and additives can help you solve these.



## Choices, choices.

If you want to use additives to enhance your nutrition, which ones are useful? This depends on the situation. Additives can be very useful, especially when growing in pots.

## There are three different types.

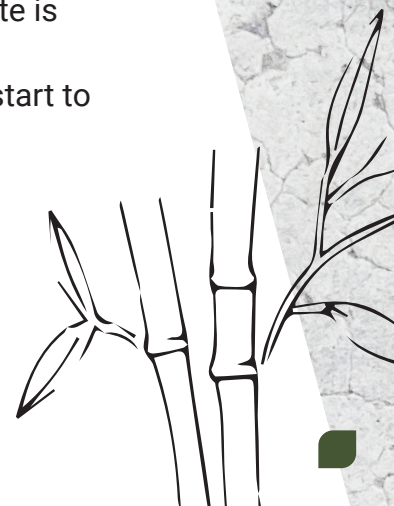
- Boosters and enhancers, that enhance nutrition with higher dosages of phosphorus and potassium. For younger plants, there are foliar fertilisers that assist the formation of chlorophyll, like Vita Race, and others that help with root formation. Other products, like Green Sensation and Sugar Royal, increase your harvest, speed up the growing cycle and improve the quality of your end product.
- Next, there are additives to control the pH value. These are most important if you're using mineral nutrition. Sometimes you need to neutralize an aggressive pH very quickly if you made a mistake.
- Lastly there are substrate complements like worm humus, bat guano, perlite and other soil improving products. You can mix these into the substrates in your pots, but they can be even more valuable if you're growing in open ground. Some soil improvers are less well suited for growing outdoors. Perlite for example will not degrade in the soil and remain behind after your cultivation. This will leave a lot of debris in the ground.



# Which tools and supplies do I need?

In the last topics we adressed grow boxes, pots, nutrients, additives and loads of other things. It's a good idea to summarize what you're going to need for your first growing project.

- **Seeds or cuttings.** Obivously, you're going to need the plant itself. You can buy seeds, recycle them from fruit or vegetables or ask for a cutting from someone who's already growing.
- **Pots and trays.** You germinate the seeds and let them grow in a seed tray inside a grow box. There are also cheaper DIY alternatives. If you're not planning to grow in open ground, you'll need reasonably large pots. You'll have to transplant every once in a while as the plant grows in size.
- **Thermometer and hygrometer.** It's always a good idea to know how warm and humid it is.
- **Tools.** EA garden trowel, beaker and watering can are pretty useful to plant, mix nutrient solutions and water your plants. A spray bottle can also come in very handy.
- **Substrate.** You'll need a different soil for every phase of a plants' life.
  - Germination is done in seeding and cutting soil.
  - Later on, plants will be transplanted to larger pots and finally (if you choose this method) into open soil. The pots will need to be filled with a substrate.
  - Verbeter de grond in je tuin met wormenhumus.
- **Basic nutrition.** Strictly speaking a plant needs nothing more than what nature can give it. You will get better results, however, if you add a fertiliser you will get much better results. A nutrition that is designed to work with the substrate is preferable.
- **Sticks and supports.** Once a plant gets bigger later on in the year, it will start to hang. Support it with sticks or a rack, for example made of bamboo.





# How can I keep things low budget?

Not everyone has a lot of money to spend on the most expensive equipment for their first try at growing plants. And sometimes it's just a fun challenge to try and keep things as cheap as possible. Below you'll find multiple tips and tricks to keep it low budget!

## Low budget alternatives.

You can find simple, cheap alternatives for a lot of things. This starts right at the beginning: seeds.

- You don't necessarily have to buy seeds. You can actually gain them from vegetables or fruit that you're eating anyway. Peppers and tomatoes have seeds that you can easily use for growing. Seed quality will be a bit of a lottery, but apart from the price of the produce, it costs you nothing to try.
- Germination can be done in special grow boxes with seed trays. But you can also use egg cartons, empty fruit crates or the plastic boxes of grapes or mushrooms. Just like a grow box, these have plastic lids that keep humidity and warmth in the box. You can even cut up a plastic soda bottle and seed in the lower end. Put the upper end on top as a protective lid.
- Ask others and recycle! Pots for outdoor cultivation can be quite expensive, but chances are good that there are people who want to get rid of pots. Ask around on social media or freecycle pages on internet. You might even find people offering tools or materials for supporting structures or roofs at really prices or even for free.
- Save on watering costs by storing rain water in a rain barrel. Apart from financial savings, this also gives a water reserve for dry periods. The still water might be a breeding ground for pests and microbes, though.

Put all these ideas together to save a lot of money on the equipment for your outdoor cultivation.

# Where can I get help?

In spite of all your careful planning, germinating and raising your seedlings, things aren't going well with your plants. What now? How do you find out what's wrong and what can you do about it?



## Plagron Servicedesk.

Plagron kan je helpen met de meeste kweekproblemen. Stuur je vraag per e-mail naar [servicedesk@plagron.com](mailto:servicedesk@plagron.com) of vul op [plagron.com](http://plagron.com) het invulformulier in. De Servicedesk kan je natuurlijk helpen met al je vragen over de toepassing van Plagronproducten. Maar de kweekexperts van de Servicedesk kunnen je ook helpen met alle kweekgerelateerde vragen.

## Community.

Er zijn veel internetfora voor enthousiaste kwekers te vinden. Hier kun je vaak terecht met vragen over je kweek, problemen met planten of voorraden. Het kan ook zeker lonen om de fora af struinen voordat je begint. Je vindt er allerlei tips voor en van andere kwekers en zo kun je leren van iemand anders zijn fouten.



# Where do I buy my supplies?

## Where should I look?

In previous topics you've read a lot about the things you'll need for your outdoor cultivation. Once you've gotten sorted out what you're going to need, you'll need to figure out where to buy your stuff.

### **The garden center is your friend.**

Most of the things mentioned in this document can be purchased out your local garden center. You'll find grow boxes with seed trays, suitable pots and all kinds of garden tools in every variety. If you can't see the forest for the trees, you can always ask the employees for advi



## Seeds

You can buy seeds for most species and varieties of plants in gardening shops, garden centers and web shops. Be sure to find out in advance if you want specific characteristics and which variety you need to buy for those. You'll find plenty of information on forums about this. Don't forget that there might be special offers, so you can get more seeds for your money. Some plants have specific varieties that are better suited for growing outside. This is especially important if you want to move your plants outside early, like halfway through May. That early in the year, might still have frost above ground and your seeds not to be able to withstand this. So be careful to buy the correct variety of seeds if you're planning to plant early.

## Substrates

You can buy seeding and cutting soil (and later potting soil) at the garden center. If you're growing in open ground, this is not a bad option at all. But if you do choose to grow in pots, we advise you to buy a specialized substrate. Plagron offers a range of basic nutrients, substrates and additives that are suitable for any experience level and goal. Want to know where you can buy Plagron products? Visit the Shoplocator on Plagron.com.

## Pots.

Be sure that your pots are suited to growing outdoors and that they have enough drainage holes in the underside. The substrate needs to be able to shed excess water, after all. You can enhance drainage by putting a layer of perlite or pottery at the very bottom of your pots. This is a good low cost alternatives.

## Grow styles.

Take care not to mix organic and mineral products. It's not a disaster if you do, but take into account that these products are respectively focused on different goals. If you mix organic and mineral, your nutrition will no longer be in harmony with the substrate and you will most likely not get the optimal result. Plagron's products have grow style names and colours, so you can identify which nutrient goes with which substrates. Alga Grow and Alga Bloom are meant to be combined with 100% NATURAL substrates and Terra Grow and Terra Bloom with 100% TERRA. This comes down to a choice between quality of harvest or a high yield.





# Are you a first time grower and do you need help?

Order our free startersguide here. As a bonus you will receive the popular 100% TERRA base nutrients (250 ml Terra Grow and 500 ml Terra Bloom) free of charge. These base nutrients will provide optimum growth and flowering of your plant.



Share your growth!  
#growlegendary