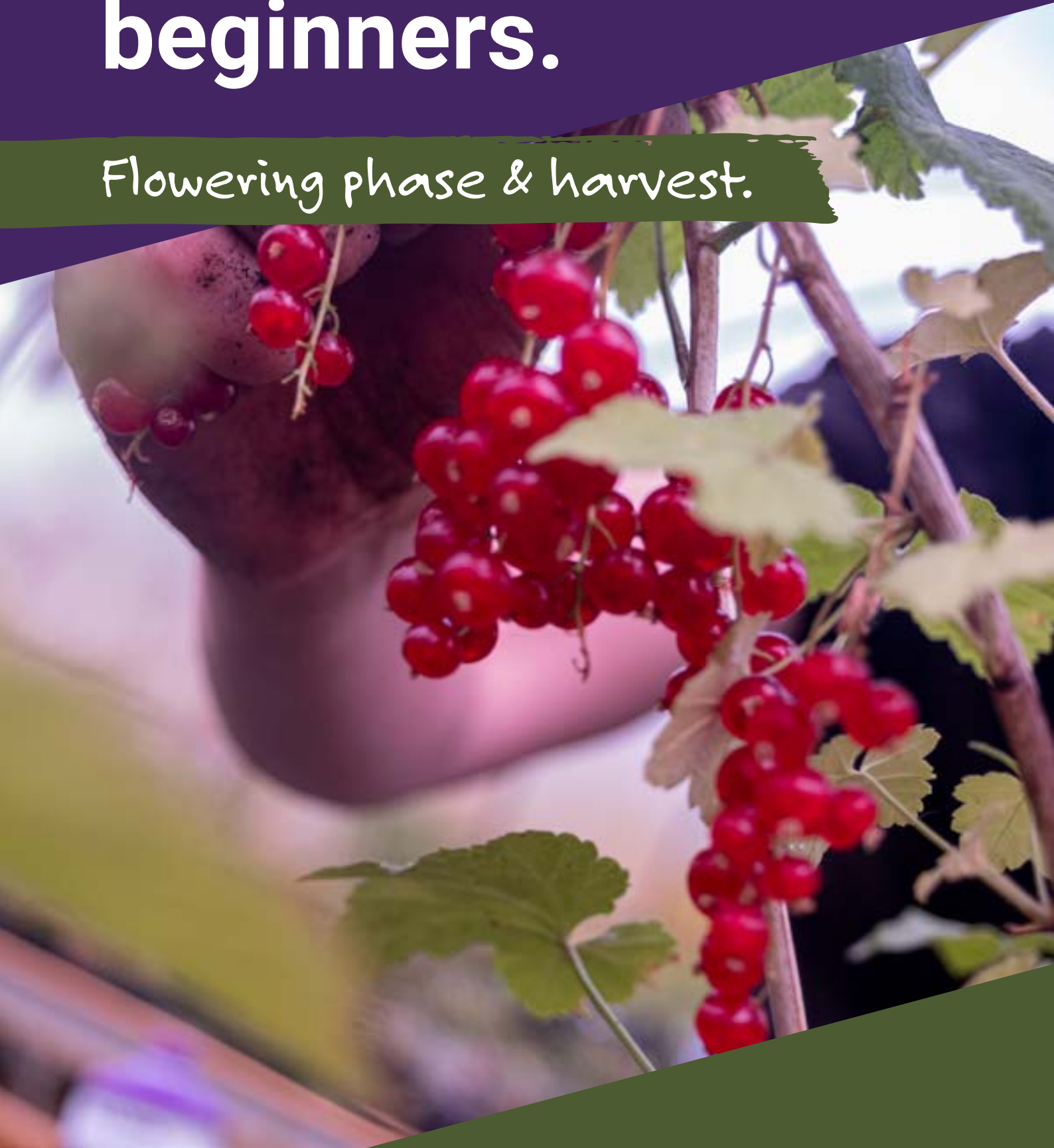


# Growing outdoors for beginners.

Flowering phase & harvest.





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# The flowering phase.

## Introduction.

After a long, warm summer outdoors, your plants have grown well. It won't be long now until they start flowering. When flowering is over, it's harvest time! Nice! But what is flowering and how can you make sure your plants flower well?



## What you need to know about flowering.

In the flowering phase, a plant makes flowers and fruit. Why do they do this? It's basically a reproductive system. The plant senses that summer is coming to an end and wants to continue the species. Flowering consists of a number of phases. It starts with a transitional period, which is more or less the plant's puberty. In this period, the plant goes through a growth spurt and can double in size! Only after this spurt will they really start forming fruits and flowers. At this point, the plant is making your end product.

Just like humans and animals, plants have sexes. Both of these bloom in different ways. Female plants form flowers with pistils, that catch pollen from the air. Male plants pollinate the female plants, which then start forming seeds. When the seeds end up in the ground, they can germinate and become a new plant. As a grower, you want female plants that are not pollinated during flowering. This leads to the best quality yield on harvest.

# When does flowering start?

Fruit-bearing plants flower for a much longer time than they grow. Most of the plant's energy goes towards the forming of reproductive parts: flowers and fruits. So, when does flowering start?



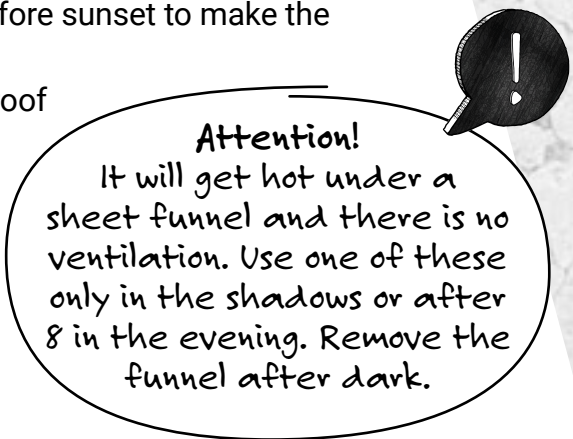
## Daylight.

The most important condition for the start of the flowering phase is the amount of daylight the plant receives. A plant grows best if it gets lots of daylight. They get the most around the longest day of the year, on the 21st of July. Around this time, your plants will get 16 hours of light every day. After that, the days will shorten. Once the days become shorter than 14 hours around the middle of August, your plants start to change. They detect that summer is reaching its end. Time to create a new generation of plants! In the longer nights, plants start to generate flowering hormones, which signal that it's time to bloom.

## Controlling flowering.

If you're growing on the natural day-night cycle, it can take some patience for flowering to start. But you can use a trick from indoor growers to encourage blooming: blacking out the plant. Effectively, you limit the amount of daylight, which tricks the plant into thinking that the days are shortening. You can imagine that blacking out is more difficult outdoors than indoors. Here are a couple of tips:

- **Do you have a dark shed?** Put your plants in there before sunset to make the nights longer.
- **No shed?** Build a small cover from planks and lightproof plastic sheets. You can put your plants under this.
- **No room in your yard?** Maybe you're growing on a balcony? Make a sort of funnel shaped bag out of lightproof plastic sheet. Pinch the top shut with clothespins. Put this over a plant to black it out for a few hours until sunset.



# How can you recognize your plant's bloom?

From mid-August the days will shorten enough for your plant to start flowering. Maybe you tricked your plant into believing it was time by blacking it out.

Anyway: it's time for the flowering phase.

But how can you tell if your plant is in bloom?



## Calyxes and pistils.

Plants start to flower because they want to procreate. In order to do this, they make flowers and fruit. If you see the formation of actual flowers, you'll know your plant is in bloom. Male flowers give off pollen, which female plants catch with their flowers. The females then start to make seeds. As a grower you want to prevent that, since it's not good for the quality of your harvest.

### So, what are flowers made of?

- The calyx. This is the first part of a flower that's formed. It's a chalice- or cup-shaped ring of small leaves that protects the procreative parts of the flower. If you picture the flower as a building: the calyx would be the foundation.
- Pistils. These are formed later, once the calyx is complete. Pistils are long hairs arranged around the center of the flower. Later on, they will be an important indication of how far flowering has progressed. As the plant matures, their colour changes to yellow and eventually amber. They are also an indication if a plant is female or male, since only females have pistils.
- Male plants have little sacks of pollen, that open to dispense their contents and pollinate female plants. Since female plants stop further formation of flowers when they are pollinated, you want to prevent pollination. If you recognize male plants: remove them. If you're growing from feminized seed, chances of male plants are low, however.



# Which nutrients does your plant need in the flowering phase?

Although the flowering phase is pretty easy for the grower, the plant is working its ass off. Now is the right time to help it with some flowering nutrients. We'll start off with that in this topic. As more flowers and fruit are generated, the plants will get a lot heavier. Help them with some support and by getting rid of old foliage.



**Tip!**  
Our nutrients Alga Bloom and Terra Bloom are perfect to give your outdoor plants a bit of help.

## Food for champions.

Nutrition for the flowering phase has a different NPK value than growth phase nutrients. What was NPK again? The three letters are for Nitrogen (N), Phosphorus (P) and Potassium (K). These are the three most important elements, called macro nutrients. For a growing plant, nitrogen is an essential building block. That's why growth nutrients have a higher percentage of nitrogen.

Nutrients for flowering contain more phosphorus and potassium than nitrogen. Phosphorus plays a major role in the plants breathing and is essential for flower formation. Potassium is responsible for the firmness of cell walls. It also controls the stomata that the plant uses to absorb carbon dioxide, hydrogen and oxygen from the air.

## When to start flowering nutrients?

Your plant will start its flowering phase with a growth spurt. You'll notice the first pistils emerging by this time. But since the plant is still growing so quickly, you'd be smart to leave it on growth nutrients. Some species can practically double in size during this growth spurt. You'll switch to flowering nutrients once the growth stops and you see solid fruit and flower formation. Our nutrients Alga Bloom and Terra Bloom are perfect to give your outdoor plants a bit of help.

# What maintenance does your plant need in the flowering phase?

In the last chapter we covered flowering nutrients. Now it's time to physically help your plants. As their bloom continues, their branches will get heavier with flowers or fruit. This can cause them to bend or even hang down. In some cases this could lead to breakage and lost yield.

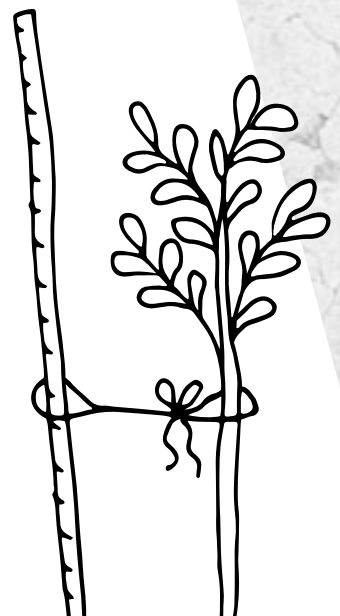
## Attention!

Don't use hard wire or bind too tightly with tape. Wire will cut into the branches, which creates little wounds and loss of plant sap.

## Give them a hand.

You can support your plants with sticks or trellises of wood or bamboo. These actually have two goals:

- **Support.** As fruits and flowers gain weight, your plant's branches will start to bend down. This can end badly. Support your plants by tying heavier branches to a stick. You can also use a conical plant support made of wire. Stick these over your plants. As branches start to bend down, they'll lean against the support. Tie them to the support at this point, to protect the branches from damage. Don't use hard wire or pull string too tight around the branches. Although plants won't grow much during flowering, the branches can still thicken. Wire could cut into the branches, leading to wounds, sap loss and danger of infection.
- **Light.** Branches hanging down will catch less light. And light is essential to the plant, since it's one of the things necessary for energy generation. So help your plant get more light by tying up branches in upwards directions..



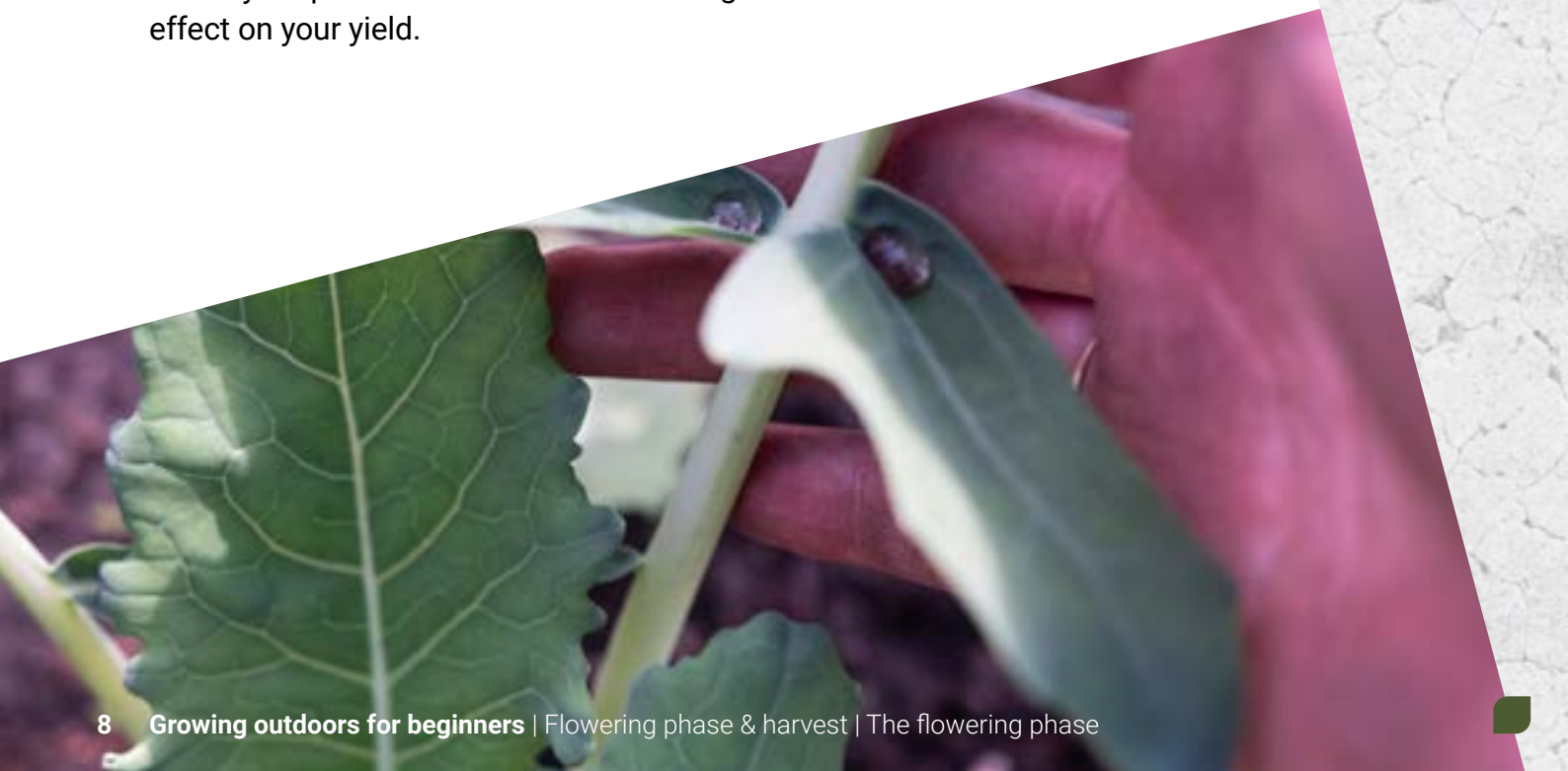


**Attention!**  
Too much trimming during flowering can also stress your plant so much that it has a negative effect on your yield.

## Remove old foliage.

Once flowering starts in earnest, your plant stops most of its growth. All energy is directed towards the formation of flowers and fruits. You can remove some old foliage at this point. You'll find this older stuff lower down on the plant. They won't be as green as young leaves and aren't catching much light. It's costing the plant energy to keep this foliage alive, but the leaves aren't pulling their weight anymore. Remove them.

Some growers choose to remove even more leaves, including technically healthy ones. You can do this, since it does save more energy for formation of flowers and fruits. But trimming the leaves and branches creates small wounds, at a time when your plant is vulnerable to infection. Too much trimming during flowering can also stress your plant so much that it has a negative effect on your yield.





# Do's in the flowering phase.

Besides flowering nutrients and plant support, there are other things you can do to help your plants. But you can also do things to harm them, even with the best intentions.

Time to look over some dos and don'ts.

## What can I do to help my plants?

- **Ventilation.** When growing outdoors, ventilation doesn't seem too much of an issue. Your plants are in the open air! There's wind out there, isn't there? True, but most outdoor growers will protect their outdoor plants to some degree. In fact, it's good to protect your plants from strong winds from several directions. You might also decide to black out your plants, to force the onset of flowering. These measures all limit ventilation. What can you do about that? It depends whether you're growing in pots or not.
  - If you're growing in pots, you can black out your plants in a shed or using a plastic cover. In that case, it's very important to put the plants back in the fresh air once the sun has gone down. If you keep them warm and moist under cover for too long, they will form mold.
  - Are your plants in open soil and immobile? Then it's important to choose a spot with some airflow, but without strong wind. Don't forget to remove covers at night if you're blacking out your plants. Ensure your flowers aren't covered by foliage too much. Trim off some leaves that are too close to your flowers to increase air flow.
- **Humidity.** Depending on the area you live in, the weather can be quite different. Extreme heat, drought and humidity are all bad for your plants. Obviously, you can't control humidity in outdoors growing as easily as you might indoors. But if you're blacking out your plants, it's good to make sure it doesn't get too dry or too moist under the cover.
- **Light.** Your plants are dependent on the day-night rhythm to start flowering. It's important that your plants get enough dark hours. But during the day, they want light! Remove other plants or objects that block light and don't leave your plants under a roof or cover. Do you black out your plants before sunset? Be careful not to interrupt the rhythm you've established.

# Don'ts in the flowering phase.

So, what are things your plants really aren't happy with in the flowering phase? In this topic we'll discuss things you'd better not do while your plants are in bloom.

## How not to help your plants.

- **Lots of moving.** You can't completely eliminate moving your plants, especially if you want to black them out. After all, you'll have to move them to a shed or blackout tent. Moving your plants does have some risks, however. Branches will get heavy and bend as flowering continues. The jostling during movement can cause top heavy branches to bend too far and break. Check if there are branches that need support before moving the plants. Another thing to keep in mind: plants point themselves at the light. Each time you put them in a different location, they need to turn to the light again. This stresses the plants, so don't move them too often.
- **Trimming.** This is a real don't. Do not remove large amounts of foliage. It's fine to remove some old leaves that are going yellow or brown. These are lower down on the plant and probably don't catch much light anyway. Theoretically, you can also remove some branches with healthy foliage, in order to spare more energy for flowering. But trimming creates small wounds, right at a moment when the plant is vulnerable to infections. The plant needs to heal the wounds and that takes energy.





### Attention!

You can overwater your plants! If the soil can't drain it, the water ends up filling air pockets. This means oxygen won't be renewed in the ground for too long and your plants will suffer.

- **Too much water.** Water is good, but you can overwater your plants! Roots take up water, but they also need oxygen. If you give so much water, that the soil can't drain it, the water ends up filling air pockets for too long. This means oxygen won't be renewed in the ground for too long and your plants will suffer.
- **Overfertilization.** As your plant matures during flowering, parts of it will change colour. This yellowing is not necessarily due to nutrient deficiencies.
- **Irregular light.** Once your plants are flowering, it's important to maintain a rhythm of light. This is true for growers who black their plants out and for those who use the natural day-night cycle.
  - When you're blacking out, you decide the rhythm. To simulate nature, you increase the dark hours until you don't need to black out the plants anymore. It's important to maintain the rhythm. Don't cover your plants an hour later compared to previous nights. Also, don't suddenly remove the plants from darkness into the light.
  - If you're growing on the natural day-night cycle without blacking out, you need to prevent your plants from getting too much atmospheric light. Things like bright lights in your neighbour's yard or the lights in your own home shining into your garden. Atmospheric light can interrupt the flowering rhythm and will have a bad effect on your harvest.



# Protection against extreme weather.

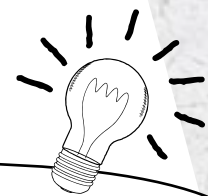
The weather has been getting more and more extreme the past few years. Summer can feature dry and hot periods with sudden hard rainfall or even hail. What can you do to protect your plants from extreme weather?

## Protect your ladies.

Plants like warmth, humid air and water. But as always, there can be too much of a good thing.

- **Heat.** The last few summers have seen long hot periods with almost no rain. How do you protect your plants against this? Obviously plants love the sunlight. But long periods with temperatures over 30 degrees can hamper formation of flowers. Place a sun screen over the plants and vaporize water over the leaves to cool the plant. Also, consider getting lightly coloured pots, since they don't heat up as much and help protect the root system. The second challenge during long dry periods is watering. Check regularly if the soil around your plants is still moist. In high heat that probably won't be the case after a day or two, so water well! If you prefer not to use drinking water for this, you can catch rain water earlier in the year.

Be aware that a rain barrel can be a breeding place for pests and diseases.



### Tip!

Consider getting lightly coloured pots, since they don't heat up as much and help protect the root system.

- **Wind.** Strong winds generally won't be a problem in summer. But the fall is just around the corner. Hard wind or storms are easy to avoid by moving potted plants. Move them carefully to a spot that's largely sheltered from the wind. You can also take your plants inside. It's only temporary, after all. If your plants are in open soil, you obviously can't move them. That's why it's important to choose a good spot right at the start of your grow. Ideally, this spot is protected against wind from two or three sides. It does need some airflow, of course.
- **Heavy rain and hail.** After a few very hot days, it's not uncommon to get a heavy thunderstorm with rain or hail. This can devastate your plants. Again, you're OK if you're growing in pots. Just move the plants carefully to a safer spot. In open soil, that advantage is lost. Your only real option is making a small roof that you can place over your plants. All you need is some planks, board and plastic sheet. Build a small 'cabin' with a solid roof that can withstand some hail. If the weather gets really heavy, a sheet roof would probably end with holes.



**Tip!**

Move plants carefully to a spot that's largely sheltered from the wind. You can also take your plants inside.



# Harvest.

## When is the right time to harvest?

Your plants have been flowering for a while and the yield is starting to form up. You feel like it might be time to harvest soon. But how can you tell for sure? And what do you need to pay attention to during the harvest?

### **The plant will tell you.**

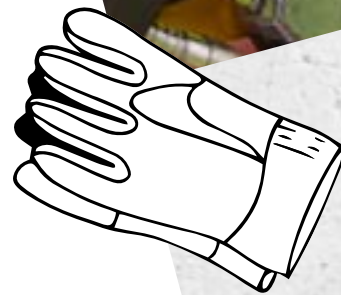
To determine whether your crop is ready to be harvested, you need to pay attention to the plant. It will give you lots of hints. Of course you'll notice the crop ripening, but usually there will be discoloration as well. Around the end of the flowering period, leaves will start yellowing or turning brown. These are signals that your harvest has matured. Do not interpret this as a yellowing due to a nutrient deficiency. If you increase nutrient dosages you may overfertilize your plants in order to fight a problem that isn't there.



## What do you need for harvesting?

So you've determined it's time to start the harvest. Let's get to it! Luckily, you don't need much to harvest your crop. But it's a good idea to prepare your stuff ahead of time.

- **Scissors.** We recommend a small, pointy pair of scissors. These are handy for the precise trimming you'll have to do.
- **Alcohol.** Disinfect your scissors before cutting your harvest off of the plant. This prevents infections to the stem.
- **Gloves.** These too are meant to prevent infections.



## Flushing.

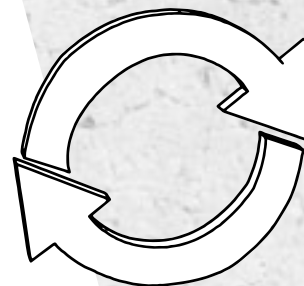
Lots of growers like to flush their plant about a week or two before harvest. This sounds complicated, but it means nothing more than flushing out the soil you're growing in. You will only irrigate the plant with water in this period and that should rinse surplus nutrients out of the soil and your plants system. Actually, there is no scientific proof for the effectiveness of flushing. Besides, you might wonder whether it's even necessary. Nutrients in the plant are in no way harmful to people. Regardless, if you think it's a comfortable idea, you can always flush.

## How does harvesting work?

There are a lot of different plants and just as many ways of harvesting. To start, you put on your gloves and clean your scissors with alcohol. Pick or cut the crop away from the plant. With some types you can remove whole bunches of the crop on their branch. Cut branches away with the scissors so you can keep the wounds small. Other crops can easily be removed by hand.

# Used soil and excess plant material.

Your grow is done. The harvest is in and has been processed. Now, you've got plant remains and used soil left over. What can you do with these? Throwing them away is a waste, so let's check out possibilities to recycle stuff.

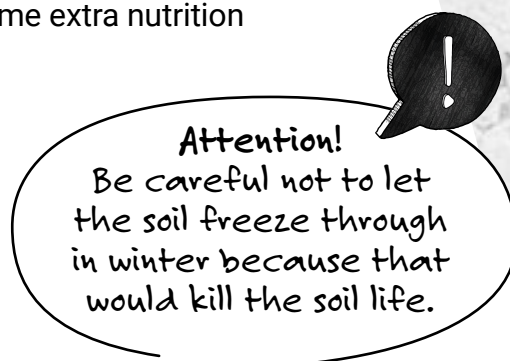


## Re-using old soil.

You can re-use potting soil for your next grow. All you need to know is a few tricks to revitalize it. This is a good way to save costs. The most important thing is to add new nutrients to the soil. Your plants have been in the soil for an entire life cycle and they've drained it of nutrients. Flushing before the harvest always washes remaining nutrients out.

Break apart the used soil and stir it together into a big heap. Add plant material, like the trimmings from your finished grow. Mowed grass is fine as well. After that, add soil life like good bacteria, fungi and worms. You can get bacteria and fungi at many gardening stores. Worms are available freely, but you can also buy special species on the internet. All this soil life feeds on the new plant material (you added). Cover your soil heap with a tarp to protect it from drying out or being flushed away. You'll have to wait at least four months until your soil is good to go again. Be careful not to let the soil freeze through in winter because that would kill the soil life.

If you want to use the revitalized soil after the winter, you need to add some fertilizer. Blood and bone meal is a good choice to add some extra nutrition after winter. The soil life will have done its work though, so you won't need too much. You could add some calcium or magnesium in the form of gardening products.



### Attention!

Be careful not to let the soil freeze through in winter because that would kill the soil life.





**Tip!**  
Make sure you research the things you can do with the excess trimmings from your harvest.

## Plant material.

You can use the larger leaves you trim off during the harvest as food for your new soil life. Shred and mix them into your old soil. Hold on to smaller leaves that come from the actual yield. Depending on the plant type you can use these to make tea, infusions or extracts. Make sure you research the things you can do with the excess trimmings from your harvest. You'd be surprised.



# Advice.

Questions?  
We will help you!



Share your growth!  
#growlegendary

Need some help with any questions about your grow? You can always get in touch with our **Service Desk**. We can answer any questions about indoor and outdoor growing, our products and much more. The Service Desk can be reached through the link below or via our social media. We'll help you to grow legendary!

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