

Watering

Frequency and need of water

The most important part of taking care of your Bonsai trees is watering. How often a tree needs to be watered depends on several factors such as; species of the tree, size of the tree, size of the pot, time of year, soil-mixture, and climate.

Different needs depending on the species

Each species has different needs. Outdoor species such as maple, Chinese elm, etc. will need to be watered more often than a tropical species grown indoors such as the ficus. Grown outdoors, the bonsai is exposed to sun, light and wind, which dries it out more quickly. However, rain can change the frequency of watering.

Watering with the seasons

A tropical bonsai grown indoors will need to be watered more frequently in summer and winter, when it is warmer due to the sun and dry air caused by heating.

Outdoors, it will be necessary to water a bonsai more frequently in summer, because the sun is stronger, the temperatures are higher and exposed to drying winds. In autumn, winter and spring, the bonsai may be exposed to heavy rains, which can change the frequency of watering.

The sun and the light

The sun is an important element that influences the frequency of watering. Indeed, the light and the rays of the sun can heat the bonsai and its pot and thus increase the evaporation of water and plant transpiration, even in winter.

In a simplistic way, we can say that the more a tree is exposed to the sun during the day, the more the frequency of watering is frequent. However, you should also know that a bonsai receiving morning sun will dry out less quickly than a bonsai placed in the sun during the afternoon.

Wind exposure

In addition to drying out the surface substrate more quickly, the wind can increase plant transpiration from the tree in certain species, i.e. the evaporation of water from the leaves. And thus, reduce the watering interval.

Temperature and humidity

A high temperature increases the transpiration of the bonsai and thus reduces the drying time of the soil, even if the weather is cloudy. However, this is true when the air is dry. It

is also necessary to take into account the humidity level which plays an important role in the watering cycle. Indeed, a high humidity rate reduces plant transpiration and water evaporation, thus reducing the drying time of the soil.

The size of the pot

The size and depth of the pot play an important role in how often you water a bonsai. Indeed, a bonsai placed in a small pot and of a shallow depth will dry much faster than a bonsai placed in a large pot. A larger volume of soil gives a greater water reserve and thus increases the drying time. The drainage of the pot is also to be taken into account.

The substrate or earthy mixture

Some components of the substrate or soil mix have better water retention than others, such as peat, vermiculite, sphagnum, clay, etc. The more of these elements present in your substrate mix, the more the drainage will be reduced and the water holding capacity increased. Therefore, watering should be more frequent.

Similarly, that other components have less good water retention such as, for example, pozzolan, river sand, etc. The higher the percentage of this type of component present in the bonsai soil mixture, the lower the frequency of watering.

In addition to the composition of the substrate, the grain size must also be taken into account. Some components such as Akadama, river sand, gravel or Chabasai have a granulometry favoring aeration and drainage. The greater the space between the grains, the more the frequency of watering is increased.

Rain or tap water?

Tap water

Tap water is the easiest solution for watering your bonsai. Available 24 hours a day, regardless of the weather. But unfortunately, it has some disadvantages to be aware of.

Mains water is often rich in limestone and chlorine which can be harmful for certain species, such as the Azalee bonsai. It is an acidophilic species that does not like to be watered with hard water. When using this water, it is also possible to see whitish spots appear on the foliage or white deposits around the base of the trunk.

If you have no other way than to use tap water, know that there are methods to neutralize chlorine and limescale.

Boil water

The first method is to boil water to neutralize the limestone and let it cool in an open container for a few hours. This technique is interesting, but quickly becomes tedious if you have a few trees.

Filter the water

A second technique consists in filtering the tap water using a filter jug or a softener to be fixed on the tap. This effective technique for a few bonsais quickly becomes expensive if you have more than ten.

Let the water stand

The cheapest and easiest solution is to let the tap water sit in a container, watering can or bottle for a few days. This technique is interesting in order to let the chlorine evaporate from the water before watering your bonsais. The method also has the advantage of watering your bonsai with water at room temperature.

Tip: If you have a few bonsais, consider storing a bottle or two of tap water at all times. This way, you always have a supply of ready-to-use water at the ideal temperature so as not to cause a thermal shock.

Rainwater

In addition to being economical, rainwater is natural, does not contain chlorine and is rich in minerals essential to your bonsai.

It should not be forgotten that a tree in its natural environment is fed with rainwater. If you have a house, a garden or a terrace, you can collect rainwater in a container or through a water collection system.

How to water a bonsai?

When you receive or buy your first bonsai, there is a question that everyone asks. How to water it? Learn about some watering methods.

Drench

Drenching is the most commonly used watering technique in bonsai. Contrary to what its name may indicate, it does not consist of soaking the bonsai in a basin. But, consists in watering the bonsai as a whole in fine rain above the foliage using a watering can equipped with a fine head. Using the drench method also has the advantage of ridding the leaves of dust and mites.

However, this method is not recommended for trees prone to powdery mildew such as maple, oak or larch. The same applies to bonsais in the flowering period or fruit trees. For these species, water the substrate directly.

Tip:

- With the drench method, water abundantly until the water runs out of the drainage holes located below the pot.
- Use a watering can with a fine-hole sprinkler head. This avoids disturbing the substrate.

Watering can

A bonsai watering can must have a finely pierced apple. This allows you to water your bonsai with the drench method in order to simulate a fine rain and not to expel the substrate from the pot because of a too strong jet. Bonsai watering can heads are often narrower than conventional watering cans to allow more precise watering, which is very useful for both small and larger bonsai trees.

The capacity of the watering can depends on the number of bonsai you have. If you have a single bonsai, a 0.7 L watering can is enough, but it quickly shows its limits if you have a few bonsai. In this case, prefer a 5L watering can. Obviously this type of watering can is not restricted to watering bonsai, you use it to water your tulips, your roses, etc.

Garden hose

For a collection or several outdoor bonsai trees, you can water using a garden hose. However, it must imperatively be equipped with a lance or a spray gun with adjustable pressure. And must be set at low pressure (minimum) so that the water does not force the substrate out of the pot.

Tip: In summer when the garden hose has been exposed to the sun for a long time, before watering the bonsai, let the water run for a few seconds to cool it.

With a bottle of water

If you live in an apartment or don't have an exterior, it is very difficult to water your bonsai with a watering can. In this case, prefer watering with a simple bottle. But be aware that this solution has the disadvantage of not being compatible with drench. Indeed, the water pressure is too strong to be able to use this method. You will instead have to water only the substrate while being careful that it does not come out of its pot.

Vaporization or misting

Do not confuse watering with spraying. This technique, otherwise known as misting, does not replace watering, but it complements it. It only makes it possible to increase the humidity level very punctually. Spraying is more often used for foliar fertilizer applications or during treatments.

Tip: In summer, spraying or misting water on the foliage of an outdoor bonsai is not very effective, because the effect is not long-lasting. It can even be harmful in the event of a heat wave.

Automatic watering

This method of watering is particularly interesting during prolonged absences, or during periods of high heat, if you have a large collection of trees.

What to do when you go on vacation?

This is a question that many bonsai owners ask themselves, once the departure on vacation approaches. The ideal solution is to be able to entrust your bonsai to a close friend or family. This person will be able to control and adjust the watering according to the different factors that influence the watering, such as the weather or the temperature. This is the most economical solution, especially if you have several bonsais.

A second solution is to have the bonsai kept by a professional. For a relatively affordable sum, he will water and take care of your bonsai with care during your vacation. As a professional, he will also be able to react to the unexpected.

Another solution that represents a blow and requires DIY skills is the installation of an automatic watering system.

How to tell if the earth is dry

For a more successful maintenance, when growing a bonsai, it is important to know when is the right time to water it. Check out some methods and techniques for checking soil moisture below.

Use the finger method

The finger method consists of inserting your finger into the soil 1 or 2 cm deep. The method generally works well, however when it is cold or you have tested several bonsais, it becomes difficult to determine if the substrate is damp.

Use the toothpick method

The method consists of inserting and leaving a toothpick or a wooden stick in the ground for at least 10 minutes. Then remove the strip from the ground and check the humidity using the color of the wood.

Tip:

. Gently insert the toothpick or wooden stick so as not to damage the roots.

- Use a different chopstick or toothpick for each bonsai to avoid contaminating another bonsai.
- The rod must not be varnished or treated so that the water penetrates well into the wood.
- To reuse the toothpick or wand for a future test, rinse and let dry.

Experience and observation

With experience and a little observation, there are a few tricks to help you determine if the soil is dry.

- Tapping the pot: if the pot is plastic, the noise is different when the soil is wet.
- Lift the bonsai: when the substrate of a bonsai is humid, it is heavier.
- Soil color: Wet soil is generally darker than dry soil. In addition, some components of the substrate like Akadama change color when wet, which gives a good indication for watering.

Step-by-step guide to watering a bonsai

Step 1: Check soil moisture using a soil moisture probe, finger method, or wand method. Once you've determined if the soil is dry or slightly dry, move on to the next step.

Step 2: Prepare everything you need and fill with water: the watering can, canister, bottle or garden hose.

Step 3: Water the bonsai preferably using the drench method (watering from above in fine rain) using a hose fitted with a finely pierced head or a garden hose fitted with a lance adjustable in pressure. Water until the entire substrate is moist and the water comes out of the drainage holes.

Step 4: Refill your watering can, can or bottle for the next watering. *Conseils et astuces d'arrosage*

Two-step watering

Two-step watering is a method that can be used in summer when the bonsai soil is very dry in summer, a substrate that is too compact or when you forget to water.

The method consists in watering a first time with a little water, waiting ten minutes then watering a second time, copiously this time. This allows the substrate to better absorb water and prevents water from leaking out of the pot from the sides, without fully irrigating the clod of soil.

Watch out for over-watering

If your bonsai is constantly waterlogged, the roots will suffocate. The first symptom is often the blackening or loss of leaves and may be followed by the death of the tree. In case of exposure to heavy rain, tilt the pot or put the bonsai under cover.

Watering in case of frost

1. During periods of frost, leave the watering can aside and wait for the temperatures to improve.
2. In winter, it is best to water in the early afternoon so that the soil is warmed up and to allow time for the water to be absorbed before the temperatures drop.
3. If the bonsai is exposed to rain during frost, monitor the root ball after the thaw.

Your bonsai is suffering from drought

If you have forgotten to water your bonsai for a few days and it is suffering from advanced drying out, you can use the soaking (bath) technique or two-step watering.

Soak and bath

Run water at room temperature in a sink for 4 to 5cm (the water should not exceed the height of the pot). Soak the bonsai until the substrate is wet at the top. Remove the water and allow the tree to drain for a few minutes to avoid drowning the roots.

Two-step watering

1. Water the bonsai once with half a glass of water and wait about ten minutes.
2. Give a second half glass of water and wait another ten minutes.
3. Then water your bonsai normally.

Lighting

Bonsai lighting needs

Although widely grown indoors with huge success, bonsai trees are naturally better suited to growing outdoors. After all, despite their miniature size, these amazing creatures need access to light and water to perform the vital process of photosynthesis. They must be maintained for a minimum of 6 to 8 hours a day and a maximum of 16 to 18 hours. However, these data are very variable depending on the weather, the vegetative state of the plant, etc. Minimum values for most bonsai species are around 12 hours per day.

Location relative to the window

The ideal place for a bonsai in a house is always located next to a wide, well-lit window (without curtains). The maximum distance will be about one and a half meters from the window.

Whenever possible, it is recommended to place indoor bonsai in front of south-facing windows, so you probably won't need additional (artificial) light for the plant to grow healthy. In case you have a north-facing window, check for lux incidents to add an artificial light source if needed.

Symptoms that plants show when they do not receive enough light for their development

- Defoliation of leaves inside the plant (where light is scarce), normally old leaves turn yellow or simply fall off without being yellow.
- The new shoots weaken, with a very fragile aspect and very long internodes. Their green color is very pale, almost white.
- New shoots grow towards the light. If it is a window, the budding is directed towards it.

Artificial lighting

To grow bonsai in conditions with little or no natural light, there is the possibility of using artificial light sources. If you choose this option, you should consider the following points:

- All artificial lighting systems give off heat, some a little more than others. Ideally, work with light bulbs or fluorescent tubes that emit as little heat as possible.
- The distance from the light source to the plant should be approximately 40 cm. In this case, if the bulbs emit excess heat, leaf transpiration and growth would be altered, and could even go so far as to burn the leaves or produce leaf loss, in extreme cases.
- Artificial lighting systems should have a timer to automatically turn off the light in a sequence predetermined by the user (eg 12 hours light – 12 hours dark).
- Artificial light is formed by so-called electromagnetic waves. These waves, in our eyes, result in the distinction of colors. Plants also have the ability to distinguish between wavelengths, so depending on the dominant wavelength the plant grows, flowers, bears fruit, sheds its leaves in case of deciduous bonsai... This fact must be considered when installing an artificial light source, as it directly interferes in the development of bonsai.

Proper artificial lighting for bonsai can be achieved with different systems. It should be borne in mind that almost all of them interfere with ambient humidity (it tends to lower) that is why it is sometimes necessary to install a humidity control mechanism, for example, automatic humidifiers. This ensures that the location is optimal for the bonsai.

The most common lighting systems are:

- Incandescent lamps, typical light bulbs emit a lot of heat and consume a lot of energy. They are not recommended.
- Fluorescent lamps emit little heat and the wavelengths are evenly compensated. Finally, they must imperatively be changed every year at the same time, because their luminosity decreases very quickly beyond 8 months. Be careful, this loss is invisible to the eye but the plants suffer from it.
- HPS and MH lamps are a much better choice due to the quality of light emitted. They are excellent solutions for reinforcement lighting (north-facing room, for example), but if there is no window in the grow room, it is better to use both at the same time. Indeed, blue promotes vegetative growth, while red induces flowering.

Most commercial brands of bulbs and lighting systems sell specific kits for growing plants of any plant species, including bonsai.