

I ♥ GROWING  
MARIJUANA



# MARIJUANA PLANT CARE

ROBERT BERGMAN



Hello fellow grower,

Thank you for downloading my miniature plant care guide! I've gotten countless e-mails and messages from members of the [ilovegrowingmarijuana](#) community who want to know everything there is to know about growing marijuana. Hopefully, this mini-guide can give you insight into how to best tend to your garden. You can also download a copy to your tablet or smartphone so that you're never without this valuable information. Everything in the guide essentially summarizes points made on the website. Links have been provided so that you can seamlessly go from the guide to the website for a more detailed explanation with much larger images.

If the answer you're looking for is in neither the e-book or the website content, then don't hesitate to use the [forum](#) feature on [ilovegrowingmarijuana.com](#). You can also upload your own pictures to make the diagnosis that much simpler.

Also, feel free to share, like, or tweet the articles on [ilovegrowingmarijuana.com](#) so that all your friends can be updated and informed too. You can also check out our [marijuana seed shop](#) and purchase high-quality marijuana seeds and help the community continue to grow.

Happy growing,

Robert Bergman



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# NUTRIENTS





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## NUTRIENT PROBLEMS FOR MARIJUANA PLANTS



With marijuana, nutrient issues can crop constantly. The three major nutrients that you'll be dealing with are nitrogen, phosphorus, and potassium (or, N, P, and K). Of course, other micronutrients like magnesium, zinc, or calcium can also play a role in nutrient problems or deficiencies. The biggest issue that marijuana growers will have to contend with is maintaining an accurate pH balance in the water and soil. The pH number is largely responsible for how many nutrients the marijuana plants absorb.

Adjusting the pH balance is generally a matter of making it more acidic or more alkaline. You want the pH to be near the middle of the pH scale between 6.0 and 7.0. Every nutrient that you add or subtract from the soil can affect the pH balance and what the plant will be able to use in terms of nutrients. Understanding that can help you keep healthy marijuana plants for a long time.

## PH LEVELS FOR MARIJUANA PLANTS



The pH scale is a measure of how acidic or alkaline a substance is. It ranges from 1.0 to 14.0 where 7.0 is neutral. The lower on the scale a substance is, the higher its acidity. The higher on the scale, the higher its alkalinity. In terms of watering marijuana, you want to make sure that both the water and the soil you're using are at an appropriate level. In soil, the ideal pH number is between 6.0 and 6.5, and in hydroponic systems, marijuana will grow with a low pH of 5.5, but the 6.0 to 6.5 range is still the best for marijuana plants to absorb nutrients.

Testing the pH level is as simple as purchasing test strips. It's important to keep the pH at an acceptable level to avoid the risk of nutrient deficiency. To avoid pH problems with soil, you can purchase commercial mixes that are created to stay at ideal pH levels. Otherwise,

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using items like pH-Up and pH-Down will get you into the desirable range. Read more about [marijuana nutrient deficiencies here](#).

## MARIJUANA NUTRIENT DEFICIENCY – BORON



Boron deficiency is rare when you're growing marijuana, but it can affect the plant's ability to thrive. The first sign of a boron deficiency comes with the growing tips turning brown or gray. In fact, the only thing that a boron deficiency really affects in the marijuana plant is new growth. The growing tips will eventually start to die, but you'll also see dead spots scattered across the leaves. The dead spots aren't very large, however.

In any event, you really want to treat the problem, because boron is important for plant processes like seed formation, pollen production, and other plant-building functions. Fixing the problem is generally a matter of using certain irrigation practices. Using boric acid is the easiest step, but you can also make use of compost, compost teas, or borax to get the boron levels back to normal.

## MARIJUANA NUTRIENT DEFICIENCY – CALCIUM



Calcium deficiency is uncommon in marijuana plants that are grown outside, but it can occur when the plant is grown in planting mixes and, most commonly, in hydroponics. Certain types of water are not composed of large amounts of calcium making them unfit for using in hydroponic systems. If you're only using water and a nutrient solution, then you might not be getting enough calcium to the marijuana plants. Calcium deficiencies generally manifest as big, necrotic blotches on leaves that have turned dark green.



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Older growth is affected the most, and the branches are weakened to the point that they may be easy to crack. A calcium deficiency can also end up affecting the root system if it's not handled early on. Treating a calcium deficiency requires the use of a calcium-rich substance like lime. Infusing that into the plant system can help it regain strength in the older growth and in the roots.

## MARIJUANA NUTRIENT DEFICIENCY – COPPER



Although copper deficiencies are uncommon, they can hurt new growth quite substantially. A deficiency in this type of element will produce necrosis in young leaves. This will also cause the leaves to turn a copper-like or bluish gray color at the tips. New growth can also be affected when flowers start to appear. So, you may get limp leaves, flowers, and other plant parts if copper is in short supply.

Because copper is so important for reproduction and maturity, you're going to want to give the plant something that will replenish the copper. Copper fungicides can help readjust the copper levels in the soil, but there are also a few other methods listed in [this article](#) that you can try out. Continue reading to find out more about copper deficiency and how to remedy the situation.

## MARIJUANA NUTRIENT DEFICIENCY – IRON



It's somewhat common for marijuana plants to experience an iron deficiency. It will affect new growth in the plant, including leaves. For the most part, upper leaves will be affected, and you'll start to notice a distinct yellowing in those leaves. The veins will stay green, but the leaves themselves will not have the right



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amount of chlorophyll. In fact, iron plays a large part in the creation of chlorophyll in the marijuana plant.

An iron deficiency can look a lot like a magnesium deficiency, except that iron only effects new growth. So, the issues will take place only in the top leaves and not the lower- to mid-range leaves. Iron deficiencies generally occur in tandem with an imbalanced pH level, so you need to adjust for that when you treat the deficiency. It can also occur simultaneously with zinc and manganese deficiencies. Learn more about [iron deficiencies](#) and how to treat them.

## MARIJUANA NUTRIENT DEFICIENCY – MAGNESIUM



A magnesium deficiency is rare when you're growing marijuana outside, but it can happen in indoor soil and soilless mediums. It primarily affects the lower leaves of the plant at first, turning them yellow and making them lose vigor. Eventually, these leaves will die. The deficiency will work its way up to the middle and then the top layer of leaves. The element is a major factor in the production of chlorophyll in the plant and it's important to infuse your marijuana plant with magnesium if it exhibits these symptoms.

Epsom salts are the quickest and easiest way to treat a magnesium deficiency. It's also important to distinguish between a magnesium deficiency and iron deficiency so that you don't end up over-fertilizing the plants. For more tricks and tips on [how to treat magnesium deficiencies](#) in marijuana plants, click through to see the rest of the article.

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## MARIJUANA NUTRIENT DEFICIENCY – MANGANESE



Manganese deficiencies are rather uncommon in marijuana plants. They are almost always found in conjunction with iron and zinc deficiencies, so you have to keep that in mind when treating the plants. The deficiency will appear in new leaves. These leaves will start to turn yellow and exhibit several necrotic spots. The vigor in the plant can be severely decreased when manganese is not present in high enough quantities. On the flip side, too much manganese can actually cause an iron deficiency.

Manganese is important for chlorophyll production and creating nitrates. Thus, it's important to ensure that you have proper levels of manganese in the soil or nutrient solution that you are providing the plants. Water-soluble fertilizer works well as a way to infuse the soil with manganese. Greensand and compost are also good options. Read on to find out more about [manganese deficiencies in your marijuana plants](#).

## MARIJUANA NUTRIENT DEFICIENCY – MOLYBDENUM



Deficiencies in molybdenum are not common at all, but they can produce some strange effects in the marijuana plant. If you don't have enough molybdenum, you will start to notice that the middle leaves will yellow. Any new growth will also start to turn up warped or it will be stopped altogether. The shoots will start twisting and the leaves may exhibit a sort of red discoloration at the tips. Molybdenum's job is to aid in the production of ammonia which is vital for other plant functions.

The reason why molybdenum deficiencies are rare in marijuana plants is because the plants don't need a lot of the element. So, to treat any deficiency you can use a foliar spray or just



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add molybdenum-infused solutions to the hydroponic system. If you want more information on [molybdenum deficiencies in marijuana](#), just click through.

## MARIJUANA NUTRIENT DEFICIENCY – NITROGEN



Because nitrogen is one of the most common nutrients that you'll find in marijuana, it's also common for it to be deficient in some way. Nitrogen plays an important role in many of the plant's functions including the production of amino acids and the vitality of photosynthesis. Any deficiencies of nitrogen in the marijuana plant will manifest themselves first in the yellowing of the leaves. The leaves will start to curl in and die if the deficiency isn't treated fast. The deficiency works its way up from the bottom leaves to the top leaves.

Correcting a nitrogen deficiency is all about using the right fertilizer with the right NPK ratio. Obviously, you want the "N" number to be higher during most of the vegetative growth. For a fast treatment, you can use bat guano, urine, or several other methods you can read about in this article about [marijuana nitrogen deficiencies](#).

## MARIJUANA NUTRIENT DEFICIENCY – PHOSPHORUS



Growing marijuana rarely yields plants that are deficient in phosphorus, but it is a possibility. The plant will start to exhibit symptoms like darkening leaf colors and slow growth. Over time, the leaves will start to curve back toward the plant and turn a tannish, brown color. Petioles and other plant parts start exhibiting darker, blue or red colors. Phosphorus is most important during the flowering period as a reproductive agent, but it also helps strengthen

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the root system and the stems. If there is not enough phosphorus during the flowering period, the marijuana plants may not yield at their highest capacity.

To eliminate the phosphorus deficiency, you need to find a fertilizer that has an NPK ratio with a higher amount of P. Bloom fertilizers and high-phosphorus guano can effectively mitigate the effect of the phosphorus deficiency. Use a water-soluble variety for the best results. For more information regarding the phosphorus deficiency, continue reading [this article](#).

## MARIJUANA NUTRIENT DEFICIENCY – POTASSIUM



Potassium deficiencies in marijuana are somewhat common. When using natural fertilizers like guano, you have to take into account the fact that potassium is going to be the least abundant of the three macronutrients (nitrogen and phosphorus being the other two). A potassium deficiency might actually make the marijuana plants appear taller and more vigorous at first glance, but the bottom leaves might be dying. The leaves may also be turning a tan or brown color and developing necrotic spots in some locations.

Chlorotic spots will start to show up as the deficiency persists. Slow growth and smaller growth are all possibilities with a potassium deficiency. Potassium is important in the transport of water and the development of buds later on. Even so, small deficiencies are really only cosmetic. Fixing larger deficiencies takes a water-soluble fertilizer that is high in potassium or one of the other solutions you'll find out about in this article about [potassium deficiencies](#)



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## MARIJUANA NUTRIENT DEFICIENCY – SILICON



Silicon deficiencies in marijuana are quite rare, largely because silicon is generally an abundant element in nature. It's also relatively abundant in any nutrient solutions, fertilizers, or other plant helpers that you might have. Because silicon plays a large role in plant production, a silicon deficiency will produce less sturdy stems and branches. Silicon is also a natural insect deterrent.

You may notice that insects are more attracted to your marijuana plant. Photosynthesis is also affected negatively with a silicon shortage.

There are a few sources of silicon that will fix a silicon deficiency. These include diatomaceous earth and even liquid silicon. Again, however, silicon deficiencies are rare and you may be better off looking at other sources for your plant's problems. Read more about [silicon deficiencies](#).

## MARIJUANA NUTRIENT DEFICIENCY – SULFUR



Although [sulfur deficiencies](#) are rare, they do still occasionally happen. The marijuana plant will start to exhibit signs of sulfur deficiency with the yellowing of newer leaves. The growth can become stunted and the leaves narrower and more brittle than before. It's important to keep sulfur at an acceptable level because it assists in a number of different plant processes including root growth and chlorophyll production.

The reason that sulfur shortages rarely occur, though, is that most fertilizers and soils have a naturally acceptable amount of sulfur in them. That means you'll rarely encounter plants that have a sulfur deficiency. If you do get sulfur deficient marijuana plants, then correcting the problem is rather easy. Epsom salts, potassium sulfate, and several other remedies can get the job done if you're experiencing any of the symptoms related to sulfur deficiency.

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## MARIJUANA NUTRIENT DEFICIENCY – ZINC



Zinc deficiencies in marijuana are somewhat common and they produce some noticeable changes in the structure of the plant. The leaf blades on the new growth will be twisted and the older leaves' veins will start to turn yellow. The plant will also turn slightly pale on some occasions. During flowering, buds will start to twist and be misshapen. Zinc deficiency is generally linked to deficiencies in both manganese and iron.

Zinc is helpful in a number of ways including plant-building and enzyme production. A severe lack of zinc can cause the plant to wilt or be brittle. To fix a zinc deficiency, you need to keep both manganese and iron in mind. Because these three are often linked, the best course of action is to get a micro mix of all three. That way you can cover all your bases. For more information on zinc deficiencies, you can read [this article](#) in its entirety.

# PESTS





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## PESTS AND BUGS PROBLEM SOLVER FOR MARIJUANA PLANTS



Pests and bugs are major problems for a variety of cannabis plants. All sorts of little critters enjoy the taste of marijuana plants and they could end up ruining an entire crop if an infestation appears. Ants, caterpillars, mealybugs, and spider mites are all pests that can have an effect on your marijuana crop. Using chemical pesticides might seem like an easy option, but it can actually be harmful in the long run. The chemicals are likely unsafe for inhalation or ingestion by humans, even if they get rid of the bug problem.

Thus, it's important to use organic deterrents like introducing pest predators into the environment or using a natural remedy. In some cases, the best pesticide is preemptive defense. Although indoor marijuana gardens are technically less susceptible to pests, you can inadvertently introduce a population of plant killers by bringing them in on your clothes. So, it's always good to be careful when dealing with pests and bugs. [Click here for the entire pest and bug section.](#)

## MARIJUANA PESTS – ANTS



Ants don't technically pose a threat to your cannabis garden, but they are an indicator of an underlying threat that you may not notice. Ants are attracted to marijuana not because they like the taste of the plant, but because the aphids and whiteflies that populate the plant produce a sweet nectar that the ants like to munch on. So, when you see ants in and around your cannabis garden, they might not be doing much damage themselves, but they are protecting the pests that actually do a lot of damage.

Even so, the ants and their soil mounds can affect the root system of the plants and you'll want to eradicate them. You can do this in a number of ways, but cornmeal seems to be



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the most effect ant killer that you'll find. For more tips on how to deal with ants, continue reading this article about [ants and marijuana plants](#).

## MARIJUANA PESTS – APHIDS



Aphids are one of the peskiest bug problems you can incur and they are sometimes hard to notice. These little pale, yellow creatures hang around on the underside of the leaves, sucking them dry of their nutrients and reproducing at a rate of 12 offspring per day. If you're growing marijuana indoors, aphids can almost entirely wipe out your garden if they go unchecked. Outdoors, however, Mother

Nature tends to balance out the ratio. Parasitic wasps and ladybugs are predators of aphids but in different ways.

A good indicator that you might have aphids is the presence of ants. Ants are not attracted to marijuana on its own, but the aphids produce a nectar that the ants like. If you want to get rid of an aphid infestation, then there are a number of different organic remedies at your disposal. Most of these come in the form of sprays that you can make in your own home. Read more about [aphids on marijuana plants](#)

## MARIJUANA PESTS – BIRDS



Under most circumstances, birds will actually help keep pests out of your outdoor marijuana garden. They like to eat caterpillars, worms, and other creatures that might enjoy your marijuana leaves. But, birds can also seek to end your marijuana garden before it's really even started. Many birds enjoy marijuana seeds, and, if you're not careful, you could have a flock of birds

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poaching your pre-germinated collection. The last thing you want is to lose your marijuana seeds before they've even produced a single sprout.

To stop the birds from eliminating your garden, there are a few things that you can try. Scarecrows, shiny objects, or netting over the marijuana seeds all help deter birds from getting to your seeds. Just remember that you'll want those birds around when the plants start to thrive. They only produce benefits when the plants are nice and green and attractive to a wide variety of different bugs.

## MARIJUANA PESTS – CATERPILLARS



Caterpillars are some of the most dangerous pests to your crops. They are both voracious eaters and hard to notice sometimes. This is especially true in the case of corn borers or hemp borers. These little creatures eat the stems and stalks from the inside out. You may not even be aware that they're doing it because they literally bore a hole into the location and stay out of sight. It's feasible for borers to hollow out an entire marijuana plant until it falls over on itself.

Other caterpillars that are content to stay on the outside of the plant can still ruin sections if you're not careful. Virtually all caterpillars enjoy the taste of marijuana. The prevalence of caterpillars is curbed by praying mantises and parasitic wasps, but you can also use organic remedies to get the caterpillars to move on. Read more about caterpillars.

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## MARIJUANA PESTS – CATS AND DOGS



Although you may love your pets, they still might mess up some of your cannabis crop, but maybe not in the way that you think. Cats and dogs aren't usually attracted to marijuana as a food source, but they are known for doing their business wherever they might please. Urine and fecal excrement are both things that you want to keep away from your still-growing marijuana garden. This also might sound counterintuitive considering that both urine and fecal matter can be fertilizers, but they both cause more problems than you might be aware of.

Cat urine is known to be high in ammonia which has a negative effect on marijuana plants. Additionally, fecal matter from your dog or cat can attract the wrong kind of parasites to your marijuana garden. Beyond that, cats and dogs like to mess things up, so be sure to keep them away from the garden or make them understand that it is not an area for playing around.

## MARIJUANA PESTS – CUTWORMS



Cutworms are most dangerous to your marijuana garden when it's at a young age. Seedlings can be entirely wiped out cutworms if you're not careful. The worst part about cutworms is that they really only work under the cover of darkness, so you may never notice them until it's too late. If the tops of the seedlings look like they've been cut and you haven't actually been cutting them, then there's a good chance that you have cutworms.

Getting rid of cutworms isn't that hard, though. The bugs are naturally susceptible to several predators and they can be wiped out without any human intervention. Other methods of removing a cutworm population include tilling the soil or planting sunflowers on the perimeter of your marijuana garden. Tilling allows you to root out the population while



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sunflowers will keep the critters at bay until the marijuana plants are big enough to not be threatened by cutworms.

## MARIJUANA PESTS – CRICKETS AND GRASSHOPPERS



Crickets and grasshoppers can cause major problems for your marijuana crop. They are omnivorous little creatures that will eat just about anything you put in front of them. If left unchecked, a marijuana plant can become the staple of their diet. There are many different types of crickets (including mole crickets) that can wreak havoc on your garden. They are also mostly nocturnal, meaning that a lot of their meals occur after you've gone to bed.

Fixing a cricket infestation is tough because they can be hard to notice, but you don't often want to rely on natural factors. Because some the bugs live in mounds under the earth, they attract mammals and birds who will gladly dig them up. This can be detrimental to your crop because it can expose the root systems. The best way to get rid of crickets and grasshoppers is to use a mixture of water and dishwashing liquid. Other methods can also help weed out these pests, read more in these [articles about marijuana pests](#).

## MARIJUANA PESTS – DEER



Deer are herbivores who eat just about any kind of greenery that you put in front of them. But, they do have a taste palate and won't come near marijuana plants as they start to mature and gain more cannabinoids. Until that point, however, deer are actually quite fond of the cannabis plant and it's important to keep them away as best you can. Obviously, the best defense is



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to actually put up a fence. This acts as a physical barrier between the deer and the plants, and they will most often look for food elsewhere.

If that's not an option, you can always use one of the many other options that will scare off deer. For instance, bright lights are known to startle a curious doe here and there. You can also use scents that will deter the deer. Something like garlic or moth balls will generally keep any deer population at arm's length.

## MARIJUANA PESTS – FUNGUS GNATS



Fungus gnats don't have a particularly friendly-sounding name and there's good reason for that. They could potentially cause major damage to your cannabis crop if you're not careful. Both the adults and their microscopic larvae are known to chow down on marijuana plants. The bugs start feeding on fungus at the base of the plant, but will eventually make their way into the root system. This causes plant growth to slow and vigor to reduce. Fungus gnats also cause major problems with the drainage of the soil.

Checking for fungus gnats is as simple as putting out a sticky pad near the base of the marijuana plant, but that won't totally eradicate the problem. You'll likely still have larvae wriggling around in the soil and a mixture of peroxide mixed in with the water will generally do the trick. Continue reading this article to [find out more about fungus gnats](#) and how they affect cannabis plants.

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## MARIJUANA PESTS – GOPHERS AND MOLES



Gophers and moles both spend a lot of their time underground. They burrow underneath and create tunnels and small living spaces for themselves and other critters. Moles generally don't pose much of a threat to cannabis because they are not interested in the plants, at all. Instead, they'll just aerate the soil for you and potentially kill off any bugs in the area. Gophers, though, are much more dangerous to cannabis plants. Instead of working around the root system, they will actually eat the roots. They may even grab entire plants and bring them down into their tunnels for dinner.

So, it's a good idea to try and avoid gophers as best as possible. They have natural predators like owls and hawks, but, if neither of those are around, you can use garlic or castor oil to get the gophers to move to another location. Find out more about [gophers and moles here](#).

## MARIJUANA PESTS – LEAF MINERS



Leaf miners, as you might expect, tend to “mine” the leaves of the marijuana plant for their nutrients. They leave rather obvious white or brown streaks on the tops of the marijuana leaves. As adults, leaf miners look like the common housefly, but they are certainly much more dangerous. They plant their larvae onto the underside of the leaves and then the larvae themselves burrow into the plants.

The only effective way to get rid of these creatures is to actually smash them on your own. Pesticides are ineffective and, of course, you may end up doing more harm than good. Find out more about [leaf miners](#) here.

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## MARIJUANA PESTS – MEALY BUGS



Mealy bugs are small, pale little creatures that hang out around the crevices of the marijuana plant. In small portions, mealy bugs don't cause a lot of harm, but they need to be controlled if their population starts to balloon. One of the biggest signs of a mealy bug infestation is the incidence of white, cotton-like balls of stuff that the bugs deposit. You will also start to notice droopy leaves with blotches on them.

One of the things that keeps mealy bugs around is the protection of ants. If you find ants around your marijuana garden, then there's a good chance that you also have an infestation of mealy bugs. There are a number of ways to get rid of mealy bugs including taking them off physically or using homemade remedies. For more information on mealy bugs and how they affect your cannabis garden, check out the rest of this article.

## MARIJUANA PESTS – RATS AND MICE



Rats and mice will eat just about anything you put in front of them. Obviously, they're more inclined to actual human food than they are to plant material, but if no food is available, then they might opt for cannabis plants. Even if they're not hungry, they might just use the cannabis stalks and stems as a way to control their constantly growing teeth. Because they are very sneaky and don't like to be seen, it's hard to actually catch a mouse or rat in the act.

The best way to avoid a rat or mouse infestation is to create an environment that is unwelcoming to them. Of course, if you have any hawks or other flesh-eating birds in the neighborhood, then you really won't have to worry. In essence, you just want to deter the rodents from coming around because they don't generally pose much of a threat.



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## MARIJUANA PESTS – SNAILS AND SLUGS



Snails and slugs are a common problem for outdoor marijuana. We're all familiar with the gloopy trail of silver that they leave behind and you'll know when they come along. Both snails and slugs are frequent diners at marijuana gardens and they can severely damage a plant if left to their own devices for too long. Their natural predators are frogs and toads, so creating an environment that is attractive to the amphibians is a good preventative measure.

If that's out of the question or you have already been infested with snails and slugs, then there are many ways to deal with the problem. Obviously, salt is a big killer of snails and slugs, but you can also get rid of them with a number of innovative measures. Read more to find out how beer can actually be your saving grace in the face of a rampant snail or slug infestation.

## MARIJUANA PESTS – SPIDER MITES



One of the biggest problems that you can face with a marijuana garden is spider mites. Spider mites are very fast reproducers and they reach adulthood in only around five days. So, it's easy to be bombarded with the pests in a short period of time. Spider mites generally feed on the plants, extracting chlorophyll in great quantities until the plant is sapped of all its energy. This can potentially ruin entire crops if it goes unchecked.

There are plenty of natural remedies to this issue, including the introduction of some spider mite predators like ladybugs. If you don't have any ladybugs available, then you can actually buy some to curb the population of spider mites. You may also be able to simply spray the spider mites off the plants with a hose (if that's feasible) or a water and neem oil spray. They will be incapable of moving and will starve to death underneath the marijuana plants.



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## MARIJUANA PESTS – THRIPS



Thrips are very small insects, but they can cause huge problems with your marijuana garden. They feed primarily on incipient flowers, meaning that the maturation process of the plants will be severely curtailed. They are also known to be disease vectors, spreading viruses from one plant to the next. These can be potentially more deadly than the thrips themselves.

Avoiding thrips is all about practice good preventative maintenance. Using a high-quality compost can be a good way to avoid thrip infestation. If the thrips have already invaded your garden then you will obviously need other means by which to eliminate them. They do have several natural predators, like predatory mites, that can curb the infestation. You can also just shake the plants if you notice a thrip infestation or spray them with a mixture of water and neem oil. Find out more about [thrips](#) by reading this article.

## MARIJUANA PESTS – WHITEFLIES



Whiteflies are small, but highly detrimental creatures that can wipe out an entire crop if you're not careful. They hide on the bottom of the leaves munching on the green material and potentially spreading diseases. In fact, that is their major drawback: the propensity to be a vector for disease. The bigger problem is that they are highly mobile so the extent of their disease-carrying abilities is far and wide. The best way to combat whiteflies to make sure they never show up in the first place.

The best way to do this is by encouraging the natural predators of the whitefly to show up in droves. Planting flowers like zinnias is a good way to attract hummingbirds and predatory insects. This is something that should keep the whiteflies away. If it doesn't, you can always try natural concoctions using items like garlic to shoo the [whiteflies](#) away.

# DISEASES



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## DISEASES AFFECTING CANNABIS – IDENTIFICATION AND CONTROL



Diseases are some of the worst cannabis problems that you'll encounter. Marijuana diseases come in two categories: fungal and bacterial. Fungal diseases are usually the result of conditions that are too humid or damp. Fungal spores float around in the air looking for an ideal location to spread themselves. Oftentimes, that location can be on your cannabis plant.

Bacterial infections are often subtler in the way they attack. They can be introduced by a number of different vectors including bugs, humans, and even rain. Bacteria won't infect healthy marijuana plants right away, but if they find an opening, they can take down an entire plant. It's important to understand the signs of a fungal or bacterial disease in marijuana so that you can properly treat it when it occurs. As always, the best defense against disease is prevention, so creating a space that is unattractive to fungus and bacteria is vital.

## MARIJUANA DISEASES – ALGAE



Algae is a common problem in hydroponic systems, largely because both marijuana and algae thrive under those conditions. But, you don't want any algae sharing space with your marijuana plants. Algae tends to attach itself to the roots of the plant which deprives marijuana of the valuable nutrients it needs to thrive in a hydroponic system.

Again, the best defense against algae is taking proper precautions beforehand. Because algae requires light and moisture to grow efficiently, it's hard to make the conditions in a hydroponic system unattractive. The best way to dissuade algae growth in your marijuana grow room is to use dark or opaque material with your growing apparatuses. If you have an infestation of algae, there are a number of things that you can do—including cleaning out



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the reservoir—to get back on the right track. Find out more [solutions for algae](#) by reading this article.

## MARIJUANA DISEASES – GRAY MOLD, BUD ROT OR BOTRYTIS



Gray mold is perhaps the single most detrimental issue you can face as a cannabis grower. It infects virtually every part of the plant, from the stems and stalks to the buds and flowers. It does not discriminate between the parts of the plant that it enjoys. It's very important to avoid introducing gray mold into your environment.

The disease is most comfortable in cool or temperate environments where humidity is present in some degree. Try to keep the temperature in the grow room above 70°F and keep down the humidity as best as you can.

You can also go above and beyond by changing clothes before you step into the grow room. Spores can sometimes latch onto clothing and then be released in the marijuana grow room when they've found a suitable host. There are several sprays or soaps that you can use if the plant is already infected. Be sure to read this article to [avoid getting gray mold](#) in your marijuana garden.

## MARIJUANA DISEASES – LEAF SEPTORIA – YELLOW LEAF SPOT



Yellow leaf spot, as you might expect, produces yellow spots on the leaves of your cannabis plants. It is a fungal disease that mostly shows up on outdoor marijuana plants that have been exposed to warmth and rain simultaneously. Spots will start to appear on lower leaves first, before working their way upward. In severe cases, an entire leaf might turn yellow and then start

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to crumble away. For the most part, only leaves and occasionally stems will be affected and your crop as a whole won't be endangered because of yellow leaf spot.

Still, yellow leaf spot can decrease yield and it's important to avoid it at all costs. Preventing yellow leaf spot is all a matter of using sterile gardening practices. For instance, you should always till the ground thoroughly and maybe even use a fungicide in the compost so that yellow leaf spot is dissuaded. If that doesn't work and you still get yellow leaf spot on your plants, then there is a way to beat it using a mixture of baking soda and other practices. Read on to find out more about yellow leaf spot.

## MARIJUANA DISEASES – POWDERY MILDEW



Powdery mildew is something that can keep plaguing your marijuana garden time and time again. It can affect both indoor and outdoor gardens because the spores are carried on the wind. The worst part about powdery mildew is that it is sneakier than you might imagine. The spores can just lie in waiting until conditions are ideal for them to “take up root.” Mildew thrives in conditions in which the humidity level is above 55% and the temperatures are generally warm.

Mildew is also common in marijuana plants that are positioned too close to one another. If you have an overcrowded grow room, then you could be risking the lives of your plants. Powdery mildew generally has a white color and affects the leaves and the plant's ability to photosynthesize. If you have incurred a powdery mildew infection, there are several sprays (including apple cider vinegar and even milk sprays) that can help mitigate the effects of the mildew. Read more about powdery mildew.



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## MARIJUANA DISEASES – FUSARIUM



Fusarium is a fungus that lives in the soil and affects the root systems of marijuana. Obviously, hydroponic systems are not going to be susceptible to the effects of fusarium because it needs soil to survive. It most commonly produces fusarium wilt or fusarium root rot, both of which can wind up killing the plants in your marijuana garden. Fusarium can also be inactive in the soil for years only to pounce on your entire marijuana crop.

If fusarium strikes, there's really not a lot you can do in the way of treating it. It's a difficult fungus to deal with precisely because it is so difficult to spot. There are several things you can do to prevent fusarium from ever taking hold (for instance, using your own soil in containers), but if you're growing marijuana in nature, you always run the risk of fusarium being present in the soil.

## MARIJUANA DISEASES – VERTICILLIUM WILT



Verticillium wilt is a lot like fusarium wilt, only the former is more attracted to soils that are improperly drained or too rich. The first signs of verticillium wilt are drooping and yellowing lower leaves. The fungus will also cause the stem to turn brown at the point where it enters the soil. With these kinds of fungal diseases, it's difficult to really work around them. You really need to have a good understanding of the soil and compost mixture that you have in the ground so that you don't incur verticillium wilt.

Try to make sure that your soil drains well, so that verticillium wilt won't rear its ugly head. Because there's really no cure for verticillium wilt, it's vital that you employ good cultivation practices like crop rotation. You can find out more about verticillium wilt by clicking through and reading this article.



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## MARIJUANA DISEASES – ROOT ROT



Root rot (or as it is scientifically known, pythium) is fungal disease that attacks the roots of the marijuana plant. It can appear in soil-based, container, or hydroponic growing mediums meaning that virtually no grower is safe from the power of pythium. The first sign of pythium is that the leaves will turn a brown or yellow color and the plant will start to wilt as a whole. But, if you really want to ensure that it's pythium, then you'll have to check the roots.

The roots of pythium-infected plants will start to show signs of discoloration. Eventually, the outer layer of the roots will fall off to reveal a stringy, weak inner core. Obviously, the first thing you want to do is create environmental conditions that are not conducive to the formation of root rot. Keeping your hydroponic system clean or ensuring proper drainage of a soil-based medium is important in warding off pythium.

## MARIJUANA DISEASES – DAMPING OFF



Damping off is actually a response to a disease (like pythium) rather than an actual disease itself. It is most prevalent in marijuana seedlings that have been attacked by a particular bacterium. The seedlings will start to wilt and you may just think that you're overwatering the plants, but, in reality, the roots themselves are being affected. You'll start to notice lesions in the seedling after a while before the marijuana plant just completely dies out.

It's always important to use proper preventative measures in order to avoid fungal diseases and the damping off that they produce. Seedlings won't be able to make a recovery in most instances, so preventing damping off from the start is the way to go. Making sure that the soil drains properly and underground air flow is not impeded should be your first course of action. It's the best way to ensure that spores will not take hold and you can end up with healthy, thriving marijuana plants into old age.

# ENVIRONMENTAL STRESSES



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## EFFECT OF ENVIRONMENTAL STRESSES ON MARIJUANA PLANTS

All environmental factors work together to produce effects on your marijuana plants. Things like humidity, air quality, temperature, and light all play a role in how well or how poorly your marijuana plants will grow. Achieving ideal environmental conditions is tough work for some growers, but it can be done if you are diligent. There are some things that can affect



how well the plants grow even if the rest of the environmental factors are in perfect condition.

Some of these things include nutrients, the pH balance, and the length of the growing season you have allotted for yourself. Finding the right balance of both the environment and human influence is important, especially when you get your final product. Plants that grow and mature under ideal conditions will produce better weed and generally large quantities of weed as well.

## DARK CYCLE INTERRUPTED – NO FLOWERS

One of the major environmental stresses that a plant can incur is changes in light intensity or dark cycle interruptions. Plants growing outdoors will get a full complement of sunlight, but indoor plants require an almost constant regimen of light. It's also true that outdoor plants have a natural, internal clock that lets them know when it's time to flower. If you're growing



indoors, you can't rely on the plant's internal clock because you manipulate the amount of light that the plant receives.

Every marijuana plant requires a certain amount of uninterrupted darkness for flowering to be induced and every strain has a different threshold for that to happen. Making sure you keep the plants in uninterrupted darkness is of the utmost importance if you want your plants to get out of vegetative state. Learn more about how light and darkness affects marijuana plants by reading this article.



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## HOT OR HUMID MARIJUANA GROW ROOM

Marijuana can survive under a variety of different conditions, but if the grow room is either too hot or too humid, then you can risk stressing the plants. The plants simply can't thrive if they are not provided with the right temperature and the right level of humidity. To reduce humidity, you can use a dehumidifier. This effectively replaces the moisture in the air with drier air.



Many marijuana varieties can stand a little heat, but there's a point at which it becomes too much. Anything above the mid-80's Fahrenheit is probably too high for many varieties. You can use air conditioners to keep the room cool, or just make sure that the water is cool enough to lower the temperature of the roots. There is also a number of other ways to cool down a hot marijuana grow room that you'll find by reading this article.

## WHEN AND HOW TO PRUNE MARIJUANA PLANTS?

Pruning can have a number of beneficial effects on the yield that a marijuana plant will provide to you. It's a common practice for farmers to prune their tomato plants to get more of a harvest when they finally mature. Marijuana works in a similar fashion. Pruning is employed by experienced growers who want to make the most of their harvest, but it is not something that should be done with too much vigor.



Excessive pruning can end up hurting the plant more in the long run, so it's important to prune in moderation. You can prune leaves or even buds to get more out of each marijuana plant. Pruning the top bud will produce more, small branches composed of a bounty of smaller buds. Pruning leaves allows

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the plant to focus all of its energy to more important growth areas (like buds). You can also prune plants for cosmetic or security purposes if need be. Read more [here](#).

## AIRY AND LOOSE MARIJUANA BUDS

Loose, airy buds lack the quality of tight, firm buds both in texture and in smoke. These problems are often caused by a confluence of environmental factors including lack of light, lack of nutrient value, and/or temperatures that were too high. In most cases, high temperatures are going to be your main culprit. If you're inside, you can use air conditioners or try to move the plants as far away from the light source as possible to mitigate heat transfer. If you're outdoors, you can use a micro-sprayer system to avoid loose, airy buds.



Lack of potassium during mid- to late-flowering might also be a problem, so make sure you change the fertilizer or nutrient solution to one with a higher concentration of potassium. For more information on how to beat this problem, just check out the rest of the [airy marijuana buds article](#).



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## MARIJUANA CLONES – CUTTINGS WON'T ROOT



When it comes to cloning marijuana plants, your main goal should be to get the cuttings to root. Manually trying to get the cuttings to root is your best option, but there are mechanical options at your disposal as well. Sometimes the cuttings won't root in the soil that they're introduced to, but it just takes a little rooting gel and some ideal environmental conditions for the

clones to take root.

You might also wonder whether it's feasible to take cuttings from marijuana plants that are mature or are flowering. The answer, of course, is yes. You can take cuttings from a plant at virtually any stage. As long as you put those clones in planting medium that supports their existence, then you should be all right. Again, maintaining a balance of humidity, temperature, and light is also important when you are trying to get clones to take root.

## STRETCHING MARIJUANA PLANTS



Marijuana plants that are stretched out tend to be that way because of certain environmental factors. Stretched out marijuana plants will not produce sturdy stems that can support several branches, buds, and leaves. So, it's important to ensure that the marijuana plants aren't stretching out too thin. A simple solution to this problem is to bend the stem back and forth. While this might

seem to put a lot of stress on the plant, it actually forces the stem to tear and then rebuild in that space. The stems become much sturdier as a result.

Other solutions to this problem include using an excess of blue light, maintaining temperatures at around 80°F, or making sure that plants have all the light they need available to them. If light is scarce, the plants will start to elongate in order to reach the light source. For more tips on how to avoid stretched-out marijuana plants, continue reading this article.



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## LOW AND HIGH TEMPERATURE



Extremes of high and low temperatures can affect marijuana plants in different ways. The ideal temperature is around 80°F, but there is some leeway in relation to this number. In fact, you can drop about 15 degrees at night if need be. Still, temperatures that are too low tend to produce plants that grow slowly and don't produce as much by harvest time. You may not notice the shift, but your yield will be much smaller than it could have been. Fixing this is really a matter of heating the grow room if it becomes too cold.

High temperatures can also cause problems with airy, elongated stalks and stems, and wilting, droopy plants overall. It's necessary to think about ventilation in this case and how it affects the temperature. You may also need to introduce air conditioning or water-cooled lights to give your grow room a break. For more tips, continue reading about [low and high temperatures](#).

## CAN STRESS CAUSE HERMAPHRODITE MARIJUANA PLANTS



Hermaphroditism in cannabis is not ideal for growers. Many of the marijuana plants can be self-pollinating and the resultant smoke of these plants is not as good as sinsemilla buds. Stress can cause hermaphroditism in marijuana plants, but the plants may also have been genetically predestined to be hermaphroditic. It's important to avoid any major environmental changes that might induce hermaphroditism.

For instance, it's possible for plants to be growing fine in outdoor conditions, but, when you take them inside, they could be put under a lot of stress. This stress can produce hermaphroditism in those marijuana plants. The only way to deal with hermaphroditism once it exhibits itself is to try and pick off the male flowers so that the plant doesn't self-

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pollinate or pollinate other plants around it. You also don't want to have hermaphroditic seeds because then every subsequent generation will be composed almost exclusively of hermaphroditic plants.

## MARIJUANA SEEDS WON'T GERMINATE



The last thing you want with your marijuana seeds is the inability to germinate. Sometimes, it's not enough to give the seed light and soil and water. In fact, it really only needs water to germinate, but other environmental factors have to work in your favor as well. The humidity, temperature, and the age of the seed itself all play a role in how effectively the seeds will germinate.

To speed up germination, you can try soaking the seeds in a hydrogen peroxide and water mixture. It can take seeds between 2 and 10 days to germinate. Outdoor seeds need to be planted at the same time of year that corn is planted in your area. For more information on marijuana seed germination, just click through for the full article.

## MY MARIJUANA PLANT WAS KNOCKED DOWN



If a marijuana plant is knocked over after a storm or some particularly harsh winds, all is not necessarily lost. You need to get the marijuana plants back into position and repair any breakage that might have occurred. You also need to make sure that the plant is firmly in the ground and won't be knocked down by any subsequent storms or wind gusts. Stakes can help support a fallen over marijuana plant and tape or rope can help support cracks in the stem or stalks.



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Sometimes the roots are ripped out of the soil and it's necessary to cover them with a nice layer of soil. You don't want the roots to be exposed to the air for too long. Plants can occasionally be damaged so much that lifting them to an upright position is unfeasible. Still, you can salvage the plant's life by being gentle with it. Read more [here](#).

## CHLORINE, SULFUR, SODIUM IN WATER – HARD OR SOFT WATER



Water is one of the main ingredients in keeping your marijuana plant's healthy and thriving, but it can also be composed of some less desirable minerals. Tap water is rarely just pure H<sub>2</sub>O and it can have chlorine, sulfur, sodium, and a bevy of other minerals that can affect the growth of your marijuana plants. Hard water also introduces dissolved solids into the water, and it's important to know what your plants are receiving when you irrigate them.

There are several filters that you can buy that will get rid of the dissolved solids. Still, you don't necessarily want to use water softeners because they can end up putting too much sodium in the water. Sulfur is highly acidic and can affect the nutrient uptake of the plants while chlorine doesn't appear to have a major effect on the way the plants grow. Read more about [hard and soft water](#).

## COLD, RAINY AND HUMID WEATHER



If you're growing marijuana outdoors, you're always going to have to deal with unpredictable weather patterns. Excessively cold weather obviously has a chance to ruin an entire crop because when temperatures drop below 45°F for extended periods of time, the plants stop growing. If a cold spell lasts longer than you



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anticipated, you may have to heat the marijuana plants artificially or even transfer them indoors.

Humid and/or rainy weather offers similar problems that you'll have to deal with. Both leave the plant susceptible to mold, and you'll want to make sure they are as dry and warm as possible after the rains have fallen or the humid weather has passed. Rain also has the chance of bringing storms that can physically affect the plant. You need to make sure that



tions in mind when it comes to cold, rainy, and humid weather.

## Overwatering And Underwatering Marijuana Plants

Watering your plants is a science that you'll figure out over time. You don't want to let them go without water for too long, but you also don't want to give them too much water. Depriving the plants of water produces wilting and a lack of vigor. You should never wait until the plants start to droop before you actually decide to water them. Check the moisture in the soil even if the plants look fine. If the soil is dry, then you should likely water the plants.

On the flip side, you never want the plant to be drowned by water. Too much water can produce a condition in which the plant's roots can't get enough oxygen. Make sure the soil drains properly so that it's not just collecting water around the roots and drowning them out. If you want more information on how to properly water your marijuana plants, check out the rest of this article.

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## MARIJUANA SOIL PROBLEMS



When growing marijuana outdoors, there are a number of different soil types that you will encounter. Not all soil is created equally, though, and you may wind up in an area that doesn't have good soil to work with. Clay soils, sandy soils, and dried-out soils are all types that have major detriments for growing marijuana. For instance, clay soils often don't drain well (or at all), which leaves the marijuana plants susceptible to drowning in water.

By contrast, sandy soils allow the water to go straight through them so that the plant doesn't actually get any of the nutrients. Dried-out soil is tough to work with, but, if you use a wetting agent, you can make it much more malleable. There are a number of solutions for making clay soils and sandy soils more acceptable for marijuana growth, all of which you'll find by reading this article about [marijuana soil problems](#).

Thanks for reading. I hope you have learned evrything you need to know to grow your own healthy plants!

But, if the answer you're looking for is in neither the e-book or the website content, then don't hesitate to use the forum feature on [ilovegrowingmarijuana.com](http://ilovegrowingmarijuana.com). You can also upload your own pictures to make the diagnosis that much simpler.

Also, feel free to share, like, or tweet the articles on [ilovegrowingmarijuana.com](http://ilovegrowingmarijuana.com) so that all your friends can be updated and informed too. You can also check out our marijuana seed shop and purchase high-quality marijuana seeds and help the community continue to grow.

Happy growing,

Robert Bergman

