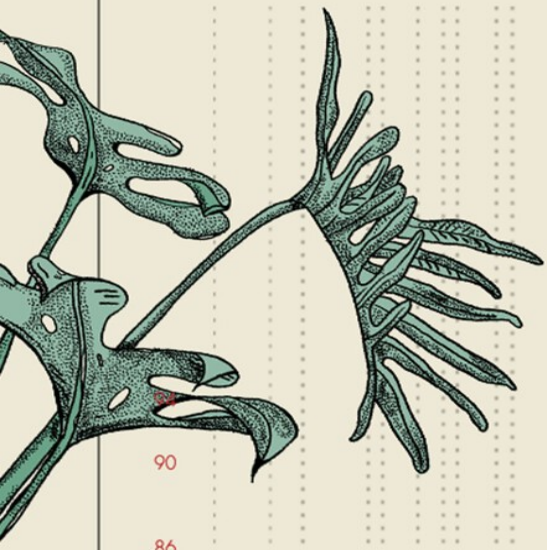


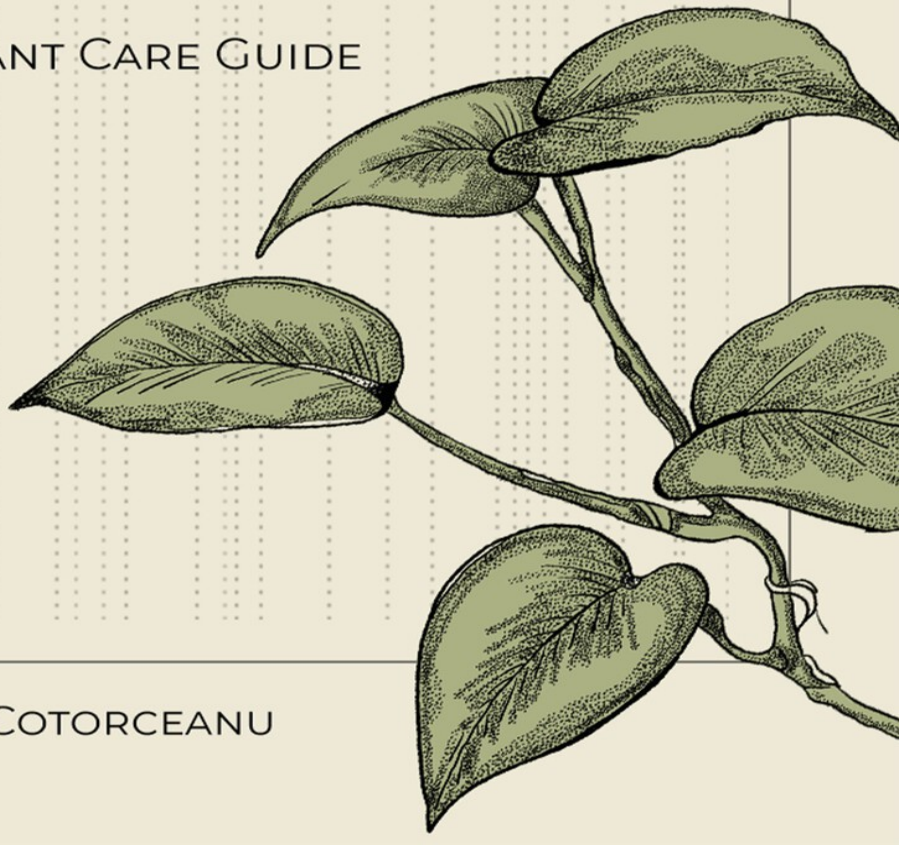
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DIRTY ROOTS BERLIN

LEAVE IT THE FUCK ALONE

A PLANT CARE GUIDE



ADAM COTORCEANU



LEAVE IT THE FUCK ALONE
a plant care guide

by Adam Cotorceanu

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LEAVE IT THE
FUCK
ALONE

Unnecessary Intro

If you're like me and you fucking hate reading intros and just want the good bits skip to CHAPTER 1: LIGHT on page 4

This is a guide to the Leave it the Fuck Alone (LITFA for short) method of growing plants. To be clear, 'leave it the fuck alone' does not mean we never interact with our plants, quite the contrary. It does, however, mean you get to spend far less time interfering and fussing with them and more time enjoying them or, even better, doing whatever the hell else you feel like doing.*

The LIFTA method was developed over nearly a quarter of a century of growing plants. I've distilled this knowledge down into the basic concepts that are easy to understand and apply.

The ideas were birthed from my torment experienced when most queries to plant quandaries produced an exacerbating overabundance of unnecessary and an oft hurtful tedium of tasks.

Like the previous sentence, **most plant advice is often overcomplicated and unnecessary.**

So, fuck that shit. This LITFA Plant Care booklet is meant to save you time and money, A lot of TIME and MONEY. It's just enough information to help you be an outstanding plant person and that's it. No fluff. Just practical knowledge you can apply today to any plant. This guide is short enough that it can literally help you become an overnight success. Whether you have been growing plants for years and are tired of the endless amount of plant chores or you've never even owned a single plant before, this guide will help you know when to step in, and what to do. But more importantly, when to just chill and leave them the fuck alone. (Spoiler: It's MOST of the time)

I've broken this book down into several sections. I did this so that once you've mastered the basic concepts, you'll realize you can easily apply them to any plant. It also makes it way easier for quick reference when you just want a refresher.

So, let's quit dicking around and get down to business.

*If what you WANT to do is fuss and mess with your plants then do it! I mean fuccckkkk I do it ALL the time... but only when *I* want to. Not because somebody on social media told me I *had* to wipe my plants down every day for a week to get rid of whatever pest I had. That sounds like torture, and I refuse to do it. And you don't have too either.

Necessary Mind Check

The LIFTA method is as much a series of things to keep in mind as it is a state of mind. If you are the kind of person who can't help but worry about every browning leaf tip, each little bug in your house, or dirt under your fingernails for a few minutes then save yourself some time and give this book to someone who can't be bothered to give a fuck. Or, better yet, keep reading and maybe you'll learn how to stop worrying so much.

If want to be a bad-ass motherfucker at growing plants, then read on. Just be warned, where most plant advice will tell you what to do, this will tell you what to know so you can figure out for yourself what to do. I am not there with you and even if I do tell you what to do, you'd rather come up with it on your own. So, I'm going to point you in a direction I like. One that encourages less intervention, fewer sprays, and tonics, and none of the bullshit that usually comes with plant advice. In other words,i.e. the ideas expressed in this book are not a simple list of plant tasks but rather serve as a framework for how we think about and interact with our plants.

So, now we know where we're headed. But before we can get to where we are going, we must first know where we are.

Section 1: Environment

CHAPTER 1: LIGHT

More than any other factor, LIGHT, or rather the lack there of, is what is holding *ALL* houseplants back. There is no grow light good enough to replace the quality of sunlight. And all windows filter the sun. Even if your houseplant can get too much light indoors it will never get the same quality of light as it would just outside our homes.

If the rest of your environment, i.e. temperature, moisture, space, etc. (more on those later) allows you to bring houseplants outdoors for part of the year, doing so can greatly increase the health of your plants. Even if it's just in a window box. All without changing anything else.

But we don't have to bring plants outdoors to increase the amount and quality of light. Later in the book, I'll teach you a few things you can do inside and outside your home, but for now it is important to start thinking about how much light your plants actually receive and where that light comes from.

It is difficult even for long time growers to know how much light a spot receives without tools such as a light meter. Our pupils grow and shrink to adjust to changing light levels and thus cannot be used with any degree of certainty. Though really, it's not that necessary. Yes, it is possible to give your plants too much light but this is rarely going to happen unless you get professional grade grow lights or simply stick a standard light directly touching or almost touching your plant.

Light from grow lights decreases in strength over very short distances so even a few inches can make the difference between too much light, the perfect amount, and not enough. If you end up using grow lights play around and see what works best. But more on that later.

Why is light so important? Plants are not people, but we often anthropomorphize them to help understand basic concepts. So, plants don't 'eat' but to make an imperfect analogy if they were to, they would eat sunlight.

To make it simple, plants use light as a source of energy to fuel the many different processes that take place inside them. The sunlight is needed to rip apart the carbon dioxide they take in from the atmosphere. They release the left-over oxygen and use the carbon for various purposes. This is why we say they breathe in carbon dioxide and breathe out oxygen. Again, plants don't breathe in the technical sense, but it does help us better comprehend plant processes.

CHAPTER 2: WATER

One of the hardest plant chores to get right. Easily the biggest killer of house plants. And once mastered will save you endless amounts of time, energy, and sanity.

Why is watering so hard for so many plant parents and what can we do to fix this?

Most plant parents, even those that have been growing for decades often fall into one of two obvious categories, Over-waterers, and Under-waterers. I don't have actual data to back this up, but I think it's safe to assume the Over-waterers significantly outnumber the Under-waterers. I assume this is the case because most people with a passion for plants often want to DO something to help our plants grow big and strong.

But regardless of whether you give too much or too little, this short chapter will demystify the ins and outs of water and its relationship to our plants.

One of the major reasons people struggle with watering comes from the language we use. I am just as guilty of this as the next person. I described two camps of plant parents as Over-waterers and Under-waterers. But in reality, this is only half correct.

You certainly can underwater a plant. But almost all house plants, cacti include, can be grown directly in water. No soil needed. The plants don't get 'overwatered' despite growing with root systems submerged in water. How can that be?

Something else must be going on. And indeed, there is.

Watering plants is not about force feeding moisture to the roots. It is a dance between Air and Nutrients.

Pure water has a lot of oxygen. Depending on where you get the water from, it usually has very few microbes (think bacteria, fungi, archaea, etc.) to use up that oxygen.

Soil has many air gaps between the soil particles. It also is full of microbes (we will talk about using microbes in houseplants later). But still much of the space is taken up by the actual soil. Even full the soil holds less water. So, if the soil is full of water, and *stays* full of water, then the fresh air gets used up quickly by the microbes.

And this is when things become a problem.

Without fresh air things begin to rot. So, when we overwater our plants what we are actually doing is not allowing enough oxygen around the roots.

So why do plants need water at all? For one, it helps the plant stay cool in hot weather. It also is used by many plants to keep their cells full of pressure, allowing them to stand, and yet move and bend. This is known as turgor pressure.

Think of water running through a hose. It has more strength yet retains some ability to move and bend. Compared that to when it is empty. It may be way more flexible, but it is much limper.

Many plants work the same way.

But water holds a much more important role. It is the main way in which essential plant nutrients get into the plant.

CHAPTER 3: SOIL/NUTRIENTS

I decided to combine these two concepts into one chapter because they are both rather short and go hand in hand.

If you want to be an asshole, the word 'soil' when talking about house plants is technically incorrect from an asshole perspective. The technical term is 'Potting Media' often called 'Potting Mix' or 'Potting Medium'. This is the Media that hold nutrients and moisture.

Technically 'soil' is only the good living dirt that is outside. The problem is that so many people unknowingly call 'potting media' 'soil'. It's too common to fight even if I wanted to and I don't cause if people understand each other then it doesn't fucking matter.

So, to not make things more complex than needed I will HAPPILY refer to potting media as soil here and throughout the book, cause fuck language rules if understanding is easier without them.

Soil helps hold the plant in place, as well as holding nutrients and moisture. I mean, clearly it does more than that but for our purposes, this is its main key role: to hold stuff.

Continuing with our imperfect analogy from earlier, if the sun is like plant food, then we can think of nutrients sort of like vitamins and minerals. Hell, many store-bought plant-nutrients come in the form of mineral salts.

Most of the energy comes from the sun. However, still essential for health and longevity are the nutrients.

The different kinds of soil have differing abilities to hold and let go of nutrients. Peat, also called peat-moss is great at holding moisture and nutrients. That is why it is often used in gardening. And why it is often so easy to over water. If you were to plant in sand, it would not hold much moisture or nutrients. Even if you add them they will quickly "leech" away. In other words, the water passes through the sand and picks up plant nutrients along the way.

There are whole branches of science that study the nutrient holding capacity and moisture retention of all sorts of soils. They also look at how freely and easily soil will give up the nutrients it holds. This is known as cation (pronounced Cat-I-On) exchange capacity. It's a term thrown around a lot to describe different soil types and how effective they will be releasing nutrients.

But honestly, unless you're like me and you get off on learning about this stuff it won't be necessary to know more than this: The soil is for holding stuff and how good it is at holding it will determine how often we need to fuck with it.

Whether or not you have the right amounts and balance of nutrients in your plant's soil is something we will talk about when we start getting into the practical section, but for now just know the soil holds the nutrients.

While your soil may be holding nutrients (hopefully), the plants want and need them. For the plants to get the nutrients from the soil into the roots the nutrients must be dissolved in water AND be of the correct electrical charge.

Let me say this another way for emphasis. For any plant to use nutrients they must be dissolved in water AND be in the right form.

We won't worry too much about the electrical charge of the nutrients. But it is important to know because so many people will tell you can bury eggshells or soak bananas in water and they will feed your plant... THEY WILL NOT because they cannot. Nothing (or at least so little it is negligible) in there is in a form that plants can use.

It's a shame. I would LOVE for that sort of stuff to work, but sadly, despite many plant influencers gaining followers by these lies, they are just that, lies to garner views and clicks.

This is one reason why synthetic fertilizers work so well and so fast. Because they can easily dissolve in water and immediately be taken into the plant via the roots. It is also why it is easy to over feed your

plant when using synthetics because too much can easily be absorbed.

The process takes longer with virtually all organic fertilizers because it takes time for the organic material to break down into basic components that are dissolvable in water.

Enough with the science bullshit – Let's get to the good stuff.

Section 2: Practical

CHAPTER 4: SO NOW WHAT?

Damn, that was a lot.

Like really.

Give yourself a pat on the back.

You now know more than the vast majority of plant growers. Each one of the environmental factors I mentioned above, and many more, contain endless oceans of research if you want to know more. If any one of them tickles your fancy I encourage you to explore the topic, but if you just want to get on with it and get your hands dirty then let's do it!

Just one quick note: the plant world is riddled with BAD plant advice. So many garden and plant hacks don't work, or do so little that they simply waste time, or worse they actively cause harm.

I'll explain everything as directly as possible throughout this guide so that you can quickly evaluate any piece of plant advice (including my own) to see if they pass the bullshit test.

How to immediately see through 90% of plant bullshit - If anyone is claiming to get extraordinary results from any method you can guarantee it's a lie. If something was so effective at growing bigger and healthier plants ALL the major food producers as well as ornamental growers would already be using it. Both groups spend untold sums to grow bigger plants in a shorter amount of time. They have so much money invested and are often on the cutting edge of plant science, they will have found a way to use it on a massive scale.

This is not to say that we know all we need to about plants and plant growth already. We do not. But extraordinary results are at best a once in a lifetime discovery and will be implemented at the industrial level before they ever make it to the hobby market. Better to expect good to great results but never extraordinary.

Though honestly, I prefer to look for methods that promise the least amount of harm to me, the environment, the plants, and others. I do not need to grow the biggest plants or the fastest. I simply want to enjoy living surrounded by them. And relax knowing that my chosen practices benefit the environment, not harm it.

Okay, okay, on with the good stuff!

CHAPTER 5: LIGHT

So, let's take stock of what we have learned so far so we can start to apply it, and by apply it I mean ideally not do much.

First, we learned plants need a fuck ton of light and probably need more than they get at home. It's why, even on your sunniest windowsill you can't keep a small herb plant alive. I can't stop basil from growing in partial shade in my back yard 9 months of the year.

But on my south facing (sunniest in the northern hemisphere) windowsill they won't last more than 3 months. Not because I am a bad plant parent but because there just isn't enough sun to sustain the energy requirements for a healthy plant.

Second, we learned that watering isn't just about watering. It's about water and air, and the roots need both. And water, while important is easy to overdo.

Third, we learned that soil's main job is to hold stuff. Stuff like, moisture, nutrients, and the plant itself.

And fourth, we learned (and are learning) to be distrustful of plant advice (yes, even {or rather especially} mine).

Great!

So, the first thing we need to do if we want to leave our plants the fuck alone is to make sure they are getting adequate light.

As stated in chapter one, if you can take plants outside for a few months or more a year it can do a world of difference. But be warned, there are many factors to contend with, such wind, rain, and cold.

As I sit here writing this, last night's low temperatures ended up dipping further than expected. I have yet to check but can almost guarantee there will be at least a little cold damage. It's the risk I run by taking them outside.

Try to take this into account when you can or, be like me and say 'fuck it, I hope it does okay'.

Below is a handy guide to help ensure a happy and healthy transition from indoors to outdoors but if you don't have access to an outdoor space or even a window box, don't worry, there are plenty of things we can do to increase the QUALITY of light your indoor plants receive.

If you don't have space, skip the Bringing Plants Outside guide.

Bringing Plants Outside

1. Know your plant's lighting needs - Before bringing any plant outdoors it is important to understand how much light they need and want. Many of our house plants will burn if left in direct sunlight. So do your research and find a suitable home for them.
2. Slowly Transition – Even if you are growing a sun-loving cactus, or aloe it is important to help strengthen your plants and get them ready for the much stronger and harsher light outdoors. While it might not appear so, even the shadiest corners of your yard receive more light than any south facing window you may have. Find a lovely shady spot and allow your plants several weeks to get accustomed to the harsher stronger sun outdoors. Then you can slowly increase the amount of light they receive.
3. Watch the sun – Not only does the sun change position throughout the day, but it also changes throughout the year. What was once the shadiest corner of the yard may become the sun trap next month. I am often rearranging my plants outdoors throughout the growing season to either increase or

decrease the amount of light each plant receives. This also applies to heat intensity. The morning light of spring is nothing compared to the intensity of the cloudless midday summer. When in doubt outdoors, less sun is safer. Even sun-loving trees like the Fiddle Leaf Fig will grow better in the shady corner of your yard then butted up against your brightest window. So play it safe!

4. Know Your Lows – While I know it can be tempting to bring our plants outdoors at the first sign of nice weather, it's important to make sure our plants don't get too cold at night. Most houseplants will die or be severely damaged by freezing temperatures. Many can't even handle that. It's helpful to research the minimum low temperature your specific plant can handle. If you're like me and can't be fucked to do this for most plants just make sure if lows will be at or below 3°C/37°F you take your plants inside for the night. If you don't want to have to take your plants in and out every day/night, then just wait until you are sure temperatures won't get that low before moving them outdoors.

SUGGESTIONS for Increasing Light Indoors

1. Keep All Curtains Open When the Sun is Out - Not only can sun intensity help fuel plant growth, so can total daylight hours. A lower intense light over a longer period of time can have the same effect as a more intense light over a shorter period of time. Feel free to play around to see what works best, just don't be too quick to change lighting settings as

plants will often need several weeks or more to show adequate changes to new light levels.*

2. Add Frosting to Windows – Not only can this allow you to freely walk naked around your home with your curtains now thrown open, but it will also help scatter the light around your room. While it won't actually increase the total amount of light, I can allow light to reach places it often wouldn't if left unfrosted. You can get a cheap roll that is easy to apply and even easier to remove in case you change your mind (or move or whatever).
3. Add Mirrors and Other Reflective Surfaces – Mirrors can be a great way to increase the amount of light in a given space but you can use any reflective surface. The shinier the better. Just be careful, as this sort of light reflection can cause hot spots. When focused, these can easily damage plants. And let's be honest it isn't the most effective. But done right can look cool.
4. If You Got the Cash Get Some Grow Lights – And some timers! You might be excited for your new grow lights now but in a week you won't remember to turn them off and on, and even if you do you won't be fucked to get up off the couch and do it.

GROW LIGHT RECOMMENDATION - Thankfully every year grow lights seem to get better, more efficient, and cheaper. Many options are now designed to look and function like standard lamps you might use around the house. Just avoid any grow light that has that ugly blurple light (those red and blue grow lights that when combined look purple). Not only are they annoying to look at, particularly when they are the only light in the room but because of the limited light spectrum, it makes it very difficult to see your plants. In theory the

lights are more energy efficient than a full spectrum grow light but many of them are cheaply made and do not hold up to rigorous testing.

Many plant issues arise simply because the plant is not receiving adequate light. Most pests simply stop being a problem or go away entirely. It becomes a lot more difficult for you to overwater, and plants will be able to utilize nutrients in the soil to fuel growth.

Taking the time to get this right will make a world of difference.

*While most of our common house plants are not, some plants are photoperiodic. In other words, they are affected by the total hours of daylight they receive. Some common ones are cacti, many of which go dormant when they receive fewer than 10 hours of sunlight. Keep this in mind but generally if you give your plants 12-18 hours of light they will be just fine.

CHAPTER 6: WATER

It surprises me how many great techniques there are to know when your plants need water. Yet, despite this, most of the advice I actually come across is just fucking wrong.

Probably the most common piece of advice I hear to prevent overwatering is to place a layer of pebbles at the bottom of your pot to increase drainage. The idea behind this 'plant hack' is that if the bottom portion of the soil is the part that stays the most wet, why not remove it and replace it with something free draining right?

I'll be honest, I fell for this one when I first started growing plants. It's easy to do, but now that we are armed with a bit of knowledge let's see if we can't figure out where this goes wrong.

What about this doesn't make sense?

Go ahead and really think about it.

If we remove the bottom layer of soil, we haven't removed it. All we have done is moved it up.



If we have an adequately sized pot for our plant, we have made it too small and forced more roots into soil more likely to stay wet. If the pot was already too small, we've made our problem worse. If the pot was too big we haven't done anything to fix our "too much

water” issue (which by now we should know why that is not good) and thus are setting ourselves and our plants up for failure.

It doesn't mean that if you have rocks at the bottom of your pots your plants WILL die or suffer, but it doesn't do what it claimed. And often causes more harm.

OKAY so how do we know when our plants need to be watered? Or more accurately how do we know we can leave them the fuck alone?

Tips for Knowing When Your Plants Need Water

1. Pick them up – This is the cheapest, yet most involved method, and not particularly practical advice for large, awkward, unbalanced, or spikey plants (I own several that could fit in to all four of those categories). The idea is simple. Once every day or every few days simply pick up your plant and feel how heavy it is. As the water gets used up the plant will become lighter and more top heavy. It's by no means a perfect method but it can be a great way to connect with your plants without doing much of anything. I do this for plants I know well and I know can handle longer periods of dryness such as my ZZ cactuses.*
2. Learn to use chopsticks – You can rather easily use a cheap wooden chopstick (or even a sharpened pencil) to test the general water content of your plants. The idea is that they are wooden and can absorb water. If they are glazed or finished in any way it won't work. So the sharpened end of pencils or wooden barbeque skewers work great as well. Simply place the wooden stick in the soil and leave it. Only take it out when you are checking your

plants. When you pull it out of the soil you will be looking for two things. How wet does the stick look and how much soil sticks to it. If the stick appears dark and/or has small clumps of soil attached, it is most likely that your plant is still wet and needs more time. If the stick comes out dry and clean, there is a good chance that your plant can use some more water. If you hate the way this looks or can't find a good place to hide your stick in your plants you can always place it in the plant for about an hour and then pull it out but I find that tedious and a bit unsatisfying.

-
3. Get a moisture meter – While they make fancy electronic moisture meters, for me this is overkill. I've never bought one myself and I am not even sure I have used one before. If so, it was with no degree of skillfulness. So even if they were amazing, I still couldn't recommend them or not recommend them because what the fuck do I know. But they make cheap analog versions that work well enough for our purposes. The key phrase is 'well enough'. They do not actually test the moisture content of the soil but rather the conductivity of the soil. This means they are prone to occasional false readings. They are also often cheaply made with no quality control even from the same manufacturer. This means just because you found one you like and buy another that it will read the same. I still use one every day, but merely as one more tool in my toolbox.

 4. Stick a finger in it – You can also dig your finger into soil and much like the chopstick see the color and texture of soil that sticks or doesn't stick. The upside is you can easily feel the coolness of the moisture if

it is present. The downside is it's often difficult to get down far enough particularly in larger plants. It also inevitably leads to dirt under the fingernails. But as a plant person this is likely to happen anyway so why worry?

If you haven't noticed by now much of my advice is geared towards observation. Before we get too involved in fucking with our plants, we must observe them. We must see where they are before we can decide if we need to or even WANT to do anything. This is key to leaving your plants the fuck alone. Observing is not the same as seeing.

We may see that our plant has a yellow or droopy leaf, signs of pests, or even dead and dying branches and then fuck with them by watering, spraying, or aggressively repotting. The LITFA method recommends that once we see these issues, we first make further investigations. Our first impressions can be, and often are fucking wrong.

It's helpful for me to remember that plants move at a much slower rate than we do. If we notice a problem, there is usually still time to reverse it if we don't rush to action but instead rush to observation.

*A quick note: Many people will claim that the correct plural of cactus is cacti. These people are being assholes. Because A) if you understand me then great, who cares, understanding is the point of language not arbitrary rules. And B) those arbitrary rules actually state that there are 3 acceptable plural forms of the word cactus and those are 1. Cacti 2. Cactuses and 3. Cactus I use the first two interchangeably with cactus reserved for the singular to best avoid confusion, but you do you.

CHAPTER 7: SOIL

The stuff that holds stuff.

There are a million ways to mix organic and inorganic materials for the “best” potting media. Sorry, I meant soil. Truth is they ALL have their pluses and minuses, and pretty much everything comes with mostly minuses both in terms of what they mean for how we care for plants and for the environment and people. So, let’s see what we are working with here.

ORGANIC BASES – The brown stuff – When you get a plant from the store it probably has a lot of brown stuff. You might call this soil, or dirt or potting mix, but this is the organic portion of your plants soil. Depending on where you got it, that is probably most or all the soil. The two biggest players in the commercial market are “Peat Moss” and “Coco Coir”. These both go under variations of those names. This is the stuff that holds the nutrients and moisture.

INORGANIC BASES – The other stuff – This can be white balls that look like Styrofoam (perlite) lava rocks, pebbles, light brown balls (LECA) etc. In commercially sold plants these are usually there to help make sure the brown stuff doesn’t hold on to too much water and sometimes add weight for heavier plants.

SLOW RELEASE FERTILIZERS – Often, in house plants, you will find almost perfectly round little balls. These may be a variety of colors, but they are almost always slow-release inorganic fertilizers. They usually last 1-2 years and this is the reason we have the plant myth that you need to repot your plants every 1-2 years. If you know how to properly give nutrients to your plants (which we will discuss in the next chapter) then you can often keep your plants in the same container for many years, if not permanently. More ecofriendly companies tend to use something like worm compost as an organic alternative to traditional slow-release fertilizers. This is a great

alternative but usually only lasts 3-6 months before the nutrients have either been used up or leached out.

Ideally you want some mixture of all three but what works best for you and your plants is going to be unique to you and your environment. Keep this in mind if you decide to go down the “mix your own soil” rabbit hole. Because everyone is going to tell you that their mix is the best, but almost no one seems to consider how different everyone’s own environment is. Even compared to your next-door neighbor your home will have different temperatures and humidity levels. Different light qualities and amounts. Even if they are strikingly similar most environments differ enough that adjustments will need to be made regardless of who is giving you the information.

Most “living soil” (potting media with active microbial communities) mixes are too wet for the damp and dark Berlin. I would need excessive indoor lighting to deal with the often very organic heavy mixes. I have found that adding more mineral components works well for me, but I keep my windows open most of the year and thus my apartment tends to stay a bit cooler and wetter than even the neighbor across the hall in the SAME building. My mix wouldn’t work for them, but it works very well for me. It’s part of the reason I rarely give specific directions on my mix. It probably won’t help you to mix EXACTLY like I do.

Instead, I recommend, you guessed it, leaving your plants the fuck alone. I usually wait at least 2-3 years before I repot any new house plants. Despite what social media seems to tell you, you DO NOT need to repot right away.

Yes, the soil your plant comes in is probably less than ideal but it’s still ideal enough that repotting just get fresh “good” soil for our plants does more harm than good. I have seen countless people complain about the shitty soil their plants come in and claim this is the reason it dies shortly after bringing it home, but often they did an aggressive repot the same day they brought it home. The opposite of leaving it the fuck alone. Repotting is very hard on most

plants and really should only be undertaken when your plant is in optimal health, or it is the last hope before it dies. Rarely an actual repot is what will help you. Learning to work with the soil that is already there, and improving the overall environment will do more wonders for a weak and suffering plant than repotting 99 times out of 100.

If you do want to go down the rabbit hole and make your own soil, I highly recommend it. But before you do I implore you master standard plant soils before attempting your own. I could be wrong and maybe you are the exception that proves the rule. Maybe you will learn more by diving straight into living soil, but I have a feeling you would do better to master the soil you are given before attempting to create your own. Unless you get a plant from a very un reputable dealer the soil will be good enough to last for 3-5 years so long as we are able to provide our plants with nutrients.

CHAPTER 8: NUTRIENTS

For my money the best way to get nutrients for our plants is to get them for free from our own homes using waste. NOT your personal body waste (though technically you can use your own urine, please please DO NOT use your own shit) but paper, cardboard, kitchen scraps. When given time, in the RIGHT environment they will do WONDERS for your plants. I am, of course, talking about compost.*

Like I stated earlier, this organic material will need time to be broken down before the plant can use it. There will most likely be a stinking, rotting, fly-ridden mess that is harmful to our plants if we toss banana peels in our pots, even if we bury them. We need a way to break this stuff down before we 'feed' it to our plants.

Ironically, if you go full-on soil nut like me, (which I will teach you the basics of how to do by the end of this chapter) you could bury a whole fucking banana and not only would it likely break down quickly (relatively speaking) it would increase the health of our plants, though I still wouldn't recommend it unless the container is large and you've mastered "living soil".

Many vital soil microbes will also arrive with the addition of compost so it works as a double whammy bringing nutrients and soil life. The latter of which will help protect your plant from disease and pests while continuing to turn any leftover organic material into usable plant nutrients. But that is a topic for a whole other book. Just know compost brings essential nutrients along with beneficial microbes. Fertilizers, whether organic or synthetic bring only nutrients. Synthetic fertilizers are mineral salts and this actively kills most microbes.

The truth is there are many ways to get your plants the nutrients they need. What matters first is how you feel about plants, your relationship to them, and that of the environment at large. Unless

you make your own compost/nutrients your impact on the environment increases greatly, even with organic fertilizers.

So, you have to know WHY you are growing houseplants in the first place. Taking this time to ask yourself about your ideal relationship with your plants will make it much easier to figure out the best path forward for you, your plants, and the environment.

If you don't know why you want to master the art of growing plants just keep asking yourself. I promise if you ask yourself honestly, and enough times, and in the right state of mind, you will find out.

For me, I grow plants because it deepens my understanding of nature. It further connects me to the natural world and gives me some comfort knowing that if need be, I can use this knowledge for both the benefit of myself, those around me, and greater environment in which I live.

Armed with my understanding, it is easy to see that minimizing my impact is a key guiding principle in my approach to plant care. The less involved and invasive my care, the greater my positive contributions can be, while lessening my harmful practices.

But not everyone is like me. Perhaps you grow plants because surrounding yourself with them makes you feel calmer and more collected. Going to the extra effort to make your own nutrients might just ruin the whole vibe. Grabbing for synthetic slow-release fertilizer sticks or a bottle of liquid gold may be the way to go.

Since so many daily products come in plastic bottles we can be excused for thinking this is the best way to deliver essential nutrients to our plants. And if you value convenience then maybe it is.

But the truth is, the best stuff is our own waste. When processed correctly it can be an endless supply of nutrients without ever having to get anything extra from the store. And fertilizers aren't light. The environmental impact of simply shipping fertilizers and nutrients around the world is disheartening and that doesn't even take into account the massive amounts of energy required to produce these nutrient-filled plastic bottles. So, while I won't condemn you for

doing what feels right to you, I will encourage you to do what feels right to me.

But let's be practical. I am sure many of you are already screaming at this book (if you haven't skipped over this section entirely). I live in a small space. I can't make compost; it will stink, and my flat mates would kill me.

Depending on the style of composting you choose, it can easily be done in a small indoor space such as under a kitchen sink or small bin by the trash (anywhere convenient really).

If you have a yard with some space, I recommend some sort of large compost pile. Whether that is through hot composting, or simply three-stage cold-composting doesn't really matter. And if you don't know what either of those terms mean, don't worry.

Hot composting is by far the most involved type of composting. It requires maintaining moisture levels, ensuring you have a correct ratio of green and brown type material, turning, and keeping an eye on temperature. Frankly, it's too much work even for me, and I have the space.

Three-Stage Cold-Composting is a lot simpler. With three large bins or areas, you simply fill the first one and let it sit for 3-4 months, then you move it to the second bin, trying to make sure what was on top is now on the bottom. Let that sit for 3-4 months while you go about filling your first bin again. After that time, you continue the process. Moving the contents of bin 2 into bin 3, the contents of bin 1 into bin 2, and begin refilling bin 1. After another 3-4 months the original batch of compost is ready for use, and you simply move the rest down the line and start again. While this method takes significantly longer than hot composting, it is far less involved. Thus, I can leave it the fuck alone for 3-4 months at a time other than to fill up the first bin.

But ADAM! I DON'T HAVE A YARD!!!!

I know, I know, I didn't have one either when I first started composting. And that is where the other two popular methods come

in – Bokashi and Vermicomposting.

I am an advocate for Vermicomposting over Bokashi, but both are great options.

Bokashi involves adding specific beneficial microbes to kick start the composting process. My major problem with this method is that you must purchase these same microbes again and again. Yet another item that has to be shipped long distances. For this reason alone, it doesn't quite fit into why I grow plants. It works against my goal of minimizing my impact.

Plus, I have found it to be harder to keep from smelling. But maybe that was just my lack of experience at the time. It has been over 10 years since I tried it and that was only for about 1 year. The USER ERROR factor could be big on this one. So, if you have some Bokashi loving friends maybe ask them how often they buy their microbes and how often it gets stinky and gross. But it is a great option for limited space, particularly if you are afraid of worms.

Vermicompost is a fancy way of saying worm poop. Instead of using store bought microbes we are using the microbes in the worm's gut and then harvesting their waste. The upside is that you only need to get worms once and even if you expand your operation the worms will breed and populate the new space. But they maintain their numbers when food and space is limited. Unless you are adding too much moister rich foods without adding something absorbent like cardboard and paper the whole system smells like a rich forest after it rains. Talk about an aphrodisiac.

With either Bokashi or Vermicompost the major upside is they can be done in relatively small containers inside the home. Both my current vermicompost system and my decade old experiment in bokashi were done inside my small apartment or bedroom. The downside of using such a small system is that you can only make a small amount of compost. You'll quickly run out of space long before you run out of material to process.

Another reason I am fan of vermicompost is the ease of set up. Unlike bokashi, vermicompost, when done right does not produce excess liquid that needs to be drained. With proper care vermicompost can be done in nothing more than a bucket.

A quick google search will reveal a plethora of ways to create your own vermicompost bin. Many involve various amounts of DIY. So, if you want something still cheap and easy but slightly more advanced than just a bucket there are many great options for you. If the thought of doing anything beyond dumping some shit into a bucket under your sink is too much to handle, then a bucket is a great place to start.

If, for whatever reason, none of these options work for you then you are left really with buying something from the store. Whether that is a bottle of fertilizer, a bag of brand-new soil with slow-release fertilizers already added, or something else entirely is up to you. I just can't recommend it because the environmental impact is too great for me to feel okay suggesting it. I won't judge you for your decisions, but I also won't encourage you either.

If you do a quick online search for plant-hacks, you will come back with an overwhelming amount of DIY home-made plant foods.... God, I hate everything about that sentence.

Virtually all organic hacks for plants that you see online are at best placebos and at worst cause harm. If I haven't made this clear, now is the time - **PLANTS DO NOT EAT COMPLEX ORGANIC MATTER**. I mean technically they don't 'eat' at all. It's an anthropomorphized way of saying plants cannot absorb complex organic material into their systems. I say complex because simple amino acids can dissolve in water and thus be utilized by the plant, but you are not going to get them by soaking a banana peel in water.

It takes roughly 3-6 months for organic matter to be broken down into a usable form for our plants. All these hacks are usually left-over from before rigorous studies had been conducted. But now that we understand how plants take up and use nutrients it becomes

immediately obvious that anyone promoting such techniques has little to no understanding of plant biomechanics.

So, your option basically are:

1. Buy something in a bottle or bag that consumed massive amounts of energy to get to you but that requires little to no effort on your part.
2. Make nutrients yourself at home, thus reversing the environmental impact of from negative to positive, but it is a little more effort to be a good steward of the planet.

Sadly, those are basically our two options. Unless someone out there knows something I don't, in which case, email me your advice now!!! hello@dirtyrootsberlin.com Because that would be a game changer. I still have hope that someday maybe we will have something that is truly environmentally friendly that you can get easily and conveniently.

And remember, organic fertilizers are NOT environmentally friendly. They are just less damaging than synthetics. But they are still the cause of massive amounts of pollution and wasted energy.

This next bit gets deep into some science so feel free to skip it if it's too much. But if you want to know the truth about determining nutrient deficiencies read on.

How do you know if your plants are getting the right amount of nutrients? Honestly, you don't. You never do. There are plenty of signs, such as the way a leaf goes yellow (are the veins still green? Did the veins go yellow first? Is it the top or bottom leaves that yellow first?) that will give an indication of which plant nutrient is missing in the plant.

This is then often used to determine which nutrient should be added to the soil, but this approach misses a fundamental part of the

plants relationship to the soil. For example, excessive calcium leads to a deficiency of magnesium in the plant regardless of how much magnesium is present in the soil. In other words, calcium locks out magnesium from being used by the plant. These two nutrients need to be in balance but adding more magnesium will not fix your problem, despite appearing to have a magnesium deficiency. This is why unless you get an actual soil test it is impossible to know exactly what nutrients need to be added.

Rather than worry about it, I try to have a rich and diverse compost and then hope for the best. It's not the most effective method for growing the biggest plants, but that's not my goal.

*A note about fertilizer, compost, and nutrients: These terms are often used somewhat interchangeably much like the terms soil, and potting media. Interestingly, there is no agreed upon definition of what a fertilizer is. From a USDA perspective they let each state determine its own definition and thus there is much ambiguity to these terms. The most common definitions, and the ones I tend to stick closely with are as follows.

Nutrients: Any of the plant minerals. These include essential minerals such as Nitrogen, Phosphorus, and Potassium but also include minor and non-essential minerals such as copper and manganese.

Fertilizer: Plant nutrients where the amounts of Nitrogen, Phosphorus, and Potassium are known and measured. The major player in this category is Synthetic fertilizer but this also includes many organic options.

Compost: Organic matter in some form of decay that is usable for providing plant nutrients. Certainly, the vaguest of the three terms.

** There is a process of creating liquid nutrients by soaking weeds and other plant materials in a bucket for several weeks to release plant nutrients. This is often called JLM or Jadam Liquid Fertilizer. It is an easy enough process but one I would recommend doing OUTSIDE as it will stink like hell as the material rots in the stagnant water. Great if you have a large outdoor space to work with but a terrible idea indoors unless you want a house filled with fruit flies and fungus gnats and to stinks like rotting eggs and death. There are also a few techniques such as using pothos cuttings or willow branches in water and using that water for our plants to encourage root growth. There is some truth to this. Both the willow and the pothos secrete a plant hormone called Auxin into the water. This plant hormone encourages root growth in plants and can speed up the processes of rooting cuttings, however it is NOT giving your plant nutrients and will not help the plant survive long term. It is useful for rooting cutting and that is about it sadly.

CHAPTER 10: PROBLEMS

This is the meat and potatoes of the book.

Everyone who grows plants eventually runs into problems. Usually sooner rather than later. Whether that problem is nutrient deficiency, pests, root-rot, or some other plant issue does not matter much. Because when it comes to plant problems my number one rule is to... you guessed it... leave them the fuck alone.

This is where I differ from most plant educators and influencers. Virtually everyone else will give you a variety of tasks to do, usually involving something to buy. I can hear many of my colleagues screaming in protest now. And I get it. It's human nature. Many of us instinctually feel that when there is a problem we should 'fix it'.

There is a great Polish phrase "Nie mój cyrk, nie moje małpy" that translates to "Not My Circus, Not My Monkeys" I think this is a great attitude to have (at least initially) when we come across a plant issue. It's not *our* problem to deal with. It is the plants problem, and we can decide to help or not.

This perspective immediately takes a lot of the sting and stress out of any plant problem. But many of us have been so indoctrinated to fear the problem and swing into invasive action that most of us do more harm than good. And truth be told, much like when you cut yourself, there are things you can do to help the healing, but ultimately the healing is done outside of the help we did. Many wounds left alone would still heal perfectly fine. Maybe not as quickly or perhaps your body would have to fight off a mild infection but most cuts are not going to kill us and only if they are bad then we step in. Minor cuts and scraps often heal without intervention as do bruises and other maladies. We can see that trying to "fix" a bruise would often only cause more harm than good.

But we treat our plants more like inanimate objects that can only heal if we do it for them. Like a tear in shirt that must be sewn. And

it's natural to feel this way, virtually every plant guru has told you this is what you need to do. But fuck that shit. Let's let nature do the work for us. They are better at it anyway and it won't waste such precious materials.

In my experience, if you have done your homework, and first set up the environment to the best of your ability 90-99% of all plant problems will heal themselves. We often push our plants over the edge by trying to speed up the process or just downright "fix" it.

Do you have root-rot? A quick google search will tell you to repot or pour hydrogen peroxide in the soil. You know what I do. Fuck all. No really, if plant has been over-watered the best way to deal with it is to make sure it gets adequate but not too much light and then leave it the fuck alone. Given enough time and a good environment almost all plants will be able to recover and bounce back.

If the problem is so bad that it can only be solved by repotting, then I usually just let the plant die. After all, it's just a fucking plant. There are a few plants in my collection that I would go to great lengths to try to save if there was an issue but 99% are not worth the effort because if they are that far gone, it will take soooo long for them to look nice and healthy again anyway so why bother. The only real reason to do a drastic repot would be just to see what will happen. Go in knowing that this probably is going to be harmful but use it as a learning experience. Otherwise, you are doing harm thinking you are doing good. And when you ultimately fail to save the plant, you will think it was your inability to keep plants alive that is the problem when the true culprit was influencers who ran out things to say and decided to give you solutions to problems that don't need fixing and aren't actually problems.

Yeah sure, I hear you saying, but what about pests? If I don't eradicate them, they will spread and take over my entire plant collection. First, how do you know? Have you tried it? Like really. If you have a bad infestation, it is 100% an issue with environment. Most, dare I say, all plants can handle small amounts of pest just fine. Did you know your plants make their own natural defenses?

Assuming they are in a healthy environment and have access to the right nutrients they can live in harmony with “pests” thus creating an environment where life thrives. Allowing plant, ‘pest’ and beneficials to live together in the same space.

Let me state this again for emphasis. Most plant issues, pests included, are really an issue of environment. If plants are in a healthy environment there are almost no issues, they cannot solve themselves. So, our goal as plant parents isn’t to stop our plants from having problems. But to discover how to improve the plant’s environment so the plant can handle things for themselves, and you can just go about your life without adding plant problems to your probably already overwhelming list of things to be stressed about.

There are several nice things about this shift in mindset. One of the best is it immediately takes the blame off us, the plant grower, and shifts it to something we can easily adjust without having to do anything to the plant directly (except perhaps move it to a better location).

This method is not about eradication. I DO NOT and NEVER WILL recommend total annihilation. To me this is a very dangerous mindset. Wanting to ride your plants of pests is a gut reaction that leads to larger issues down the line.

But worse, it is very harmful for the environment and leads to this idea that we and the ‘pest’ are at odds with each other. It’s Us vs. Them in an all-out war for control of the plants. And we will win at all costs. I am taking this to an extreme to make a point, but the sad truth is I have heard many of those same words and phrases used by so called plant people. It’s touted as THE method for handling pests. As though there was no other option.

Did you know that pesticides, even organic ones like neem, do not just target pests but also beneficial creatures. You are also lowering your plants’ natural defenses meaning more intervention will be needed and ALL pesticides lose their effectiveness the more you use them. So, every time you are spraying your plant down with

pesticides you are screwing over future generations from being able to use the same methods.

This is especially true for the organic methods. So, trying to save your alocasia from spider mites by busting out the bottle of Neem Oil is a guarantee it will be less effective for the farmers who rely on it. It also means that as it loses its effectiveness in the future, harsher and more invasive methods will need to be used and developed to deal with the same issues we have today. I can't tell you what to do, but I HIGHLY encourage that you step away from being a part of the problem and become a champion of the solution. BUT WHAT IS THE SOLUTION!?!?!?

Improving the environment should, in most cases, help reduce the number of pests as well as virtually all other plant issues and thus reduce or eliminate the need for any further intervention.

Which environmental factors should we start with?

The first line of defense is physical removal. For pests, one of the easiest ways to do this is spraying the plant with water as roughly as possible without damaging that plant. This usually looks like taking the plant into the shower and turning my showerhead to jet mode and then spraying the hell out of it. You can also rub down each leaf and stem with a wet cloth. This is more time-consuming but often less damaging for more sensitive plants.

This physical removal step also works for issues such as powdery mildew. Powdery mildew is a white fluffy mildew that affects plants particularly when light conditions are low, and humidity is high. Outdoors this is most common in autumn and spring. In that instance a bit of milk wiped on the affected plant will help kill the powdery mildew. Keep in mind this is only for the white fuzzy stuff on leaves. If you find white fuzzy stuff on your soil that is a GOOD thing.

Not that you would know that from searching online as MANY people will quickly give you ways to get rid of 'mold' on the surface of your soil (usually by adding something else that comes in another plastic

bottle – Generally Hydrogen Peroxide). This white fuzzy stuff on top of the soil is however very good soil biology. It is mycelium. Mycelium is basically the living creature that creates mushrooms. Mushrooms, unlike plants, are not actually the living creature. They are the fruit (more specifically called the fruiting body) of the mycelium. A mushroom is to mycelium what an apple is to an apple tree.

It is why you should have no issues with picking wild mushrooms. You do not harm the overall organism by doing so, and in fact you help it by spreading spores to new regions.

When white fuzzy stuff appears on our soil it is usually an indication of healthy soil though it might be staying a bit too wet. But I almost always get a bloom of mycelium on the surface of my soil when I bring my plants inside in autumn. This is NOT mold. Even if you are allergic to mold spores this will NOT cause issues. It is entirely different and yet every year I see countless people trying to eradicate this healthy soil organism for fear it might cause allergic issues or somehow kill their plant. Again, it's a case of people telling you to 'fix a problem' without understanding what is actually happening. Any intervention is harmful to the environment and the healthy soil organism.

Really quick: Technically anything can be an allergen but unless you are actively allergic to mycelium there will be no issue. Virtually all mold allergies are an issue with spores. This white fuzzy stuff contains 0 spores. None. Only if a mushroom appeared then would there be spores (and even then, most of these cause no issues). It is yet another example of people trying to tell you stuff to do when leaving your plants the fuck alone would be the better, healthier, and more environmentally friendly path. But I am getting away from the topic at hand. If only slightly.

This speaks to my larger point which is this: A quick search for any common and many not so common house plant problems will return a whole host of activities and interventions that one can apply in an

attempt to 'fix the problem'. However often none of these are actually problems unless you want to look at them as such.

Where most people see problems, I see opportunities. And you can too. Every perceived issue is just a slice of the overall environment. It's a snapshot into a deeper understanding of our natural world. This cosmic interweb of life and death, creation and destruction. Why would I ever want to be so arrogant as to be the master of my plants. Rather they are my constant teachers and guides through life.

Every problem is really a host of questions begging to be answered. Which questions are you asking?

Many people go for the obvious ones: what do I need do? How do I get rid of this?

Some go a bit deeper: What is this? How did this get here?

Even fewer ask why. Why is this here? Why did it happen now? What about this situation or environment allowed for this to take place? Is the issue systemic or cosmetic? How do plants deal with this in the wild?

There is an obvious reason for this. It is easier to find information on how to get rid of fungus gnats than what environmental factors lead to this pest infestation. Even fewer mention how bad an infestation has to be before intervention is necessary if at all. One method is just a quick google search. The other takes A LOT of observation over a long period of time and a willingness to let plants just fucking keel over for the sake of understanding.

While I hope you get a lot from this book, if nothing else I hope to impart to you the importance of observation over action. Patience over speed.

I know for many of you this is hard. "Impossible" you might be screaming but I have one super easy, super helpful tip. It is the premise of the book. Hell, I could have just stated in one sentence. Shit, I mean I have said it a bunch of times. But without all this

context it often falls on deaf ears. So now that you hopefully have a bit more understanding this might really stick.

It's all about how you talk to yourself when you are spending time with your plants. Every time that jolt of panic or excitement hits you and you go to do something, spray for pests, repot, move it from one spot to another or simple just mess around with it, I want you to say to yourself as many times as you need to: Leave it the Fuck Alone.

Leave it the fuck alone.

One more time for the people in the back: LEAVE IT THE FUCK ALONE.

Obviously, this doesn't mean we never do anything. It means we don't fuck with it. We are slow to intervene and quick to observe. We do not panic, thinking the plant needs our help. Rather we find a way to set our plants up for success, so they don't need intervention. And if they do, we only do so as a last resort and by the least invasive and aggressive means possible while trying to respect all life, not just the life of the plants. We try to remember that our houseplants are not isolated creatures but part of a whole interconnected web of life. We approach plant care with the understanding that we are stewards of the planet, not masters over it, and our relationship to house plants acts as a microcosm for our place within nature as a whole. When in doubt. Just leave it the fuck alone and observe the hell out of it.

That's it. If you do that, I can guarantee you will be way ahead of most plant growers, and you'll be a hell of a lot more relaxed and calm about any plant 'issues' that arise. You'll laugh as others panic at the sight of a few pests. Hell, you'll probably soon start laughing at all the plant influencers who killed their plants by over-spraying neem oil to get rid of what they thought were spider mites but were actually soil mites. Because if you take some time to observe instead of react you'll find reaction is NEVER the right answer when it comes to plants. Just leave them the fuck alone.

CHAPTER 11: NEXT STEPS

I understand many of us still want something to DO. Action is in our nature. We feel best when we are engaged in activity. So if you can't keep your hands to yourself here are a few possible "next steps" to help you scratch that itch and still start practicing the LITFA method.

1. Dive Deeper – Are there any topics we discussed in this book that you would like to know more about? Now is a great time to do an internet search for some of these broader topics. It should be easier to find the right information now that you are armed with the right mindset.
2. Get a Closer Look – Start observing your plants now. Take 30 minutes to an hour just walking around your plant collection. Start getting up close and personal with your plants. Feel the texture of the leaves. Take note of the color of the leaves, how green (or yellow) are they now? Stick a finger in the soil and find out just how moist (or dry) it is.
3. Learn More – Still not sure what direction you should go? Have too many topics you wish to learn more about? Send me an email at hello@dirtyrootsberlin.com and we schedule a private consultation where I will teach you exactly what you want to know.

And that's it! I'm not going to waste your time with some long outro. You are now armed with the information you need to Leave Your Plants the Fuck Alone!

-Adam

P.S. If you live in Europe and need to get some GREAT soil, I have a discount for you to save 10% off at <https://www.sybotanica.com/?ref=DirtyRoots> There is not code to enter just use the link above and the discount will automatically be added at the shopping cart. They normally only give 5% off but I convinced them to double your discount.

And in the spirit of transparency, I do receive a commission on every order though I took a smaller commission to get you a bigger discount! Just a little way for me to say Thanks!