

# MEDICINAL MUSHROOMS

HOW TO GROW PSILOCYBIN MUSHROOMS  
STEP-BY-STEP GUIDE  
MICRO-DOSING BENEFITS & SIDE-EFFECTS



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# HOW TO GROW AND MICRO DOSE PSILOCYBIN

STEP BY STEP GUIDE | MICRO-DOSING BENEFITS &  
SIDE- EFFECTS |

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## INTRODUCTION

Psychedelia has been around for many years. It refers to the psychedelic subculture and experience hype that erupted in the 1960s. This subculture was primarily generated by people who used psychedelic drugs such as LSD, mescaline, and magic mushrooms. These substances can induce powerful experiences that can alter your perception. Right now psychedelics such as magic mushrooms are experiencing a resurgence both in therapeutic and recreational use with a lot of anecdotal evidence showing that there are a lot of benefits to microdosing them.

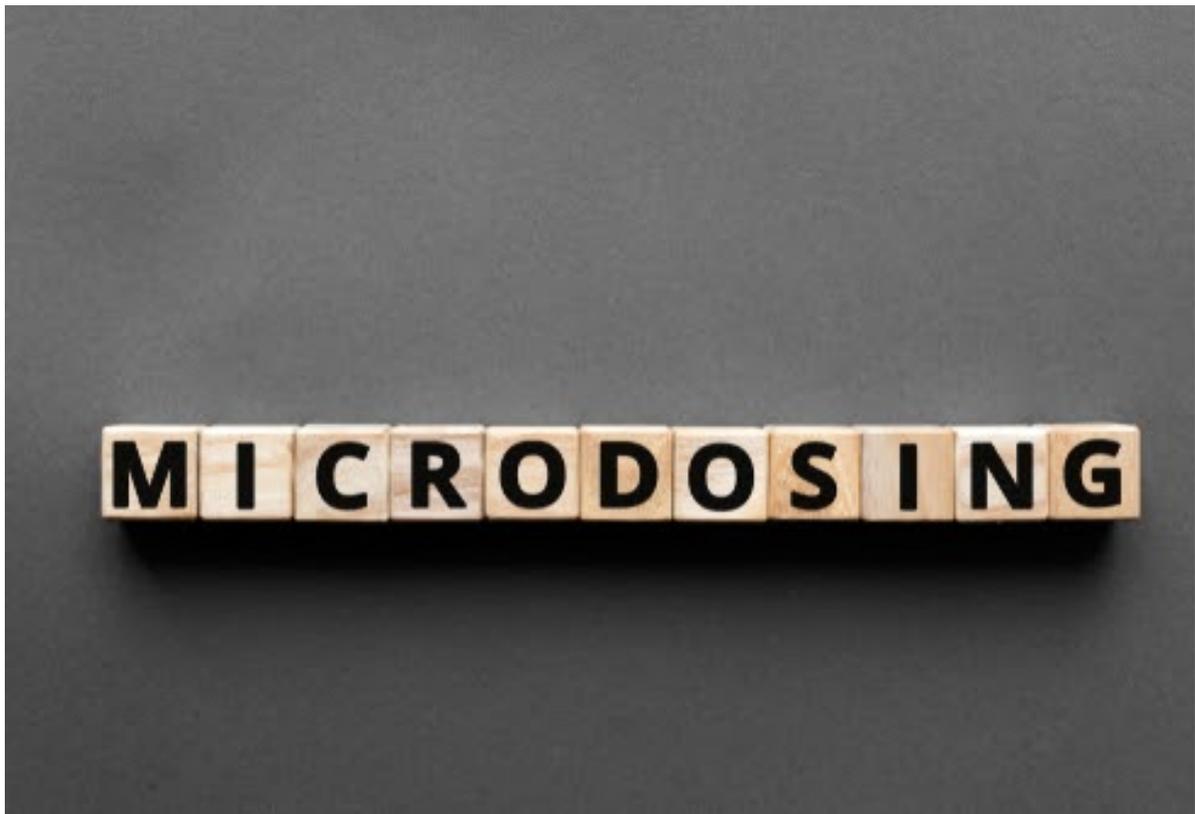
Despite the use of psychedelics dating back hundreds of years, there's still a lot that is unknown about these trippy mushrooms. The Aztecs designated them as the flesh of the gods because they allowed them to communicate with their gods. Mexican shamans used them in similar spiritual rituals. Naturally, people became curious about them and sought to experience their effects for themselves. That's how the first wave of psychedelia started. However, this didn't go too well because people were unprepared for the whole experience. Mistakes were made; laws were passed, and the stigma that was created around psychedelics still haunts us to this day.

That said, as more people recognize the therapeutic potential of magic mushrooms, we are slowly shifting from looking at them as something hippies got high on to a psychiatric remedy. Magic mushrooms are incredibly powerful and because of this, people are inherently curious about them. However, a lot of stigma still surrounds these mushrooms, which means if we are to change how people think of psilocybin, we have to find ways to use psychedelics such as magic mushrooms safely. Cue microdosing; this practice of taking psychedelics in small doses to gain a brain boost is one of the ways we are changing the narrative about psychedelics. Now, rather than being seen as something hippies do, people from all walks of life, such as creatives and even executives, are indulging in magic mushrooms, albeit in small doses.

Given how powerful and life-changing magic mushrooms are and all the benefits you have heard about microdosing, you may be curious about microdosing psilocybin mushrooms. As you embark on your psychedelic mushroom journey, you want to be well prepared. So, grab a pen and keep your mind open as we take you through everything you need to know about these psychedelic mushrooms and how to microdose them.



## ALL THINGS MICRODOSING



**M**icrodosing has been around for years; however, it has become more popular in recent years thanks to all the hype new users are creating around it. Still seen by many as something hippies do, microdosing is still far from being a mainstream phenomenon. This has slowly shifted from being an underground fad used by Silicon Valley executives and other creatives to help them come up with the next big thing. Others espouse its benefits for managing depression, attention deficit disorder, and more, there's still a lot of information about microdosing psychedelics that you should know before you try it out.

What started as a way for hippies to get in tune with their inner selves or driven creatives to squeeze a bit more genius out of their brains is

gradually making its way into everyday life. Reports indicate that more millennials today are drinking less and are even less interested in hard drugs, such as cocaine and heroin. However, in a bizarre turn of events, they have taken up using psychedelics. The most commonly reported benefits include improved mood, better sleeping and eating habits, and a decreased reliance on coffee or tea for caffeine hits.

What could be more millennial than finding a way to use some of the most potent illegal drugs out there as vitamins and feel-good pick-me-ups. This rebranding has caused an increase in microdosing, with it gaining a lot of followers on popular message boards such as Reddit. Now you can easily find numerous posts dedicated to the subject, with users sharing their various experiences of using different psychedelic substances from ketamine for depression, to cannabis for pain management, and magic mushrooms for their mood-boosting benefits.

After hearing the numerous stories from microdosers who swear by it, you may be tempted to try it out for yourself. However, several obstacles are standing in your way. The first and most important one is that most psychedelics are classified as Schedule 1 drugs, meaning they are controlled substances, and their use is regulated by federal law. However, before getting into all of that, let's take a look at what microdosing is.

## WHAT IS MICRODOSING?

Microdosing entails taking a very small dose of psychedelics, such as magic mushrooms, with the hope of gaining some brain boost, such as improved mood, physical or mental stimulation, and more. While there's no real consensus on the exact amount this dose should be, the most commonly accepted definition of a microdose is about a twentieth to a tenth of a full recreational dose. For instance, if you would take about 1 gram to feel the full effects, while microdosing, you would take about 0.01 - 0.02 grams. A research paper issued in the Journal of Psychopharmacology states that a microdose is taking 1 percent of an active dose. However, how do you tell what's a normal dose? Since it's not represented in numerical form, the more commonly accepted definition of a microdose is taking a dose so small that it doesn't cause any intoxication or significantly alter your consciousness.

With microdosing, the goal is not to get high but to lower inhibitions and open up the mind to more possibilities. When taken in such small doses, these psychedelics don't induce the trippy hallucinations often associated with taking them; however, some users claim to have enhanced visual and audio sensations after taking the psychedelics. Anecdotal evidence shows that users tend to take these small doses regularly or semi-

regularly for extended periods to produce these positive health benefits. Since the effects of microdosing are sub-perceptual, you don't experience the same hallucinogenic effects as taking a full dose would include, meaning you can easily engage in everyday activities such as working, driving, and socializing.

What are psychedelics?

Microdosing involves the use of psychedelic drugs to increase concentration, among other benefits. But what are these psychedelics? Psychedelics are a collection of psychoactive substances that induce behavioral, psychological, and physiological effects by activating serotonin receptors in the brain. Psychedelics are also referred to as psychotomimetic drugs or hallucinogens. These mind-expanding drugs induce a state of altered perception and are often accompanied with a heightened awareness of sensory input from touch, sound, taste, sight, and even sound; however a person would have diminished control over what they experience. Some of the most common psychedelic drugs include LSD or d-lysergic acid diethylamide, cannabis, ketamine, DMT, Iboga, psilocin, and psilocybin. The latter are derived from certain mushrooms and will be our main focus.

## WHY DO PEOPLE MICRODOSE?

Interest in microdosing has grown in recent years thanks to an abundance of online discussions, videos, articles, and books dedicated to the practice. However, it gained real traction between 2010 and 2013 thanks to its use by coders in Silicon Valley to increase energy, help them brainstorm and tackle any challenges or mental blocks they faced, as well as boost their productivity while they worked. While these techies tout microdosing as biohacking for creativity and a way to inspire new ways to work, people microdose for various reasons. These include:

- Alleviating mental health conditions such as depression and anxiety

A lot of people who microdose do so to alleviate mental conditions such as stress, anxiety, and depression. Most of the studies conducted indicated that the key reason why many people choose to microdose is to relieve the symptoms of these conditions. While many people use microdosing to manage their anxiety, there are mixed reports on the matter, with some studies citing anxiety as a side effect of using psychedelics.

- Lowering inhibitions and facilitate more social connections

Microdosing helps reduce anxiety generated by having to engage in social interactions, as well as improving moods, making you calmer, happier, less depressed, and more open to interaction with others. Psychedelics also induce greater empathy, improved mental clarity, and extroversion. This increased extroversion boosts our sociability, talkativeness, assertiveness, and excitability. Where you would normally not engage in social gatherings, while on these psychedelics, your inhibitions are lowered, allowing you to overcome your social anxiety and interact with others.

- Improving creativity

This is one of the most reported benefits of taking psychedelics in microdoses. It is what has led to the recent buzz in microdosing. After microdosing, people claim to feel more creative; however, this is very hard to measure as it does not necessarily correspond to real-world improvements in their problem-solving skills or innovation. A study conducted by a research team from the Netherlands found preliminary evidence proving that a single, non-blind microdose of psychedelic mushrooms resulted in improved convergent and divergent thinking, which are vital components of creativity.

Scientists also conducted a study where they compared current and former microdosers to non-microdosers to assess the differences in personality, mental health, and creativity. The microdosers, both former and current, exhibited lower measures of dysfunctional attitudes and higher measures of open-mindedness, wisdom, and creativity. Granted, more research is needed to prove these claims. Respondents reported increased focus, becoming more mindful, and engaging more with the world around them. Others reported greater openness, curiosity, a change in perceptions, and an overall increase in self-perceived creativity.

- Enhancing both physical and mental performance

A lot of microdosers report increased mental and physical performance thanks to the energy and concentration boost gotten from microdosing psychedelics. This allows them to work for longer hours and be more productive. This mental boost is why most Silicon Valley coders started microdosing. Anecdotal evidence shows that microdosing psychedelics can help improve and enhance brain function. Aside from increased creativity, some studies show microdosing leads to decreased levels of distractibility.

- Reducing physical symptoms

You can also microdose to relieve physical symptoms such as muscle tension, cramps, headaches, menstrual pain, and even manage chronic pain. Psychedelic substances such as cannabis are gaining a big following thanks to their pain-relieving properties.

- Additionally, microdosing psychedelics has been reported to help people quit other habits such as smoking, excessive drinking, and even taking simple stimulants such as coffee. While anecdotal evidence shows a lot of promise as to the potential benefits of using psychedelics, more scientific research is required before taking this method mainstream.

## WHY CHOOSE TO MICRODOSE MUSHROOMS OVER OTHER PSYCHEDELICS?

Contrary to popular belief, people of all ages from all walks of life microdose on mushrooms occasionally. While they have their own reasons for taking the mushrooms, microdosing isn't limited to hippies or druggies, as the misconception goes. There are many psychedelic substances you can microdose on, which makes choosing which one to use quite difficult. Each substance has its own unique pharmacological makeup and effects.

Additionally, the differences in our neurophysiology mean that we react differently to these drugs and that no two people can be affected the same way even if they take identical doses. Take LSD, for instance; even when taken in microdoses, some people experience overstimulation and anxiety, which they might not get when on magic mushrooms. This overstimulation might result from the dopamine-boosting effects LSD has on the brain that psilocybin doesn't.

Magic mushrooms are the preferred microdosing psychedelic substances of choice because they are easy to access, grow, and safer than other substances. Using Iboga for prolonged periods carries with it the risk of developing cardiac issues due to the strain put on the heart. Some people prefer taking psilocybin over LSD because it is a natural substance derived from mushrooms. Additionally, the magic mushroom high doesn't last as long as an LSD high, meaning it requires less of a time commitment. This reduced time commitment might appeal to some, while others might opt to choose psychedelics with longer-lasting highs.

Psilocybin is one of the most studied psychedelic compounds. The Global Drug Survey classified magic mushrooms as the safest illicit substance

because they have put fewer people in the hospital when compared to other psychedelic drugs. As scientists continue researching them, more information is available to us, making some feel more comfortable experimenting with mushrooms over other psychedelics. Despite being classified as Schedule 1 substances, psilocybin mushrooms have been decriminalized in a lot of states and countries. This eliminates the risk of facing harsh legal action if caught growing, using, or selling magic mushrooms.

That said, your choice of psychedelic will depend on a lot of factors, such as your physiology and your goals. However, magic mushrooms are a great choice for beginners and those looking for a safe and easily obtainable option.

## THE HISTORY OF MUSHROOM USE

The history of magic mushrooms use is controversial. Some believe that the cave paintings, sculptures, and manuscripts don't provide definitive proof of mushroom use, while others even claim that people are seeing what they want to see instead of the truth. However, despite all these naysayers, there is confirmed use of magic mushrooms among different indigenous tribes all over the world, including the Mazatec, Mixtec, Nahuatl, and more. Tracing the exact origins of magic mushrooms has been hard for historians. Some believe that they were used as far back as 9000 B.C. by indigenous cultures in North Africa, according to rock paintings.

There's also evidence that the Mayans and the Aztecs also used magic mushrooms if statues and other representations of mushroom use are to be believed. The Aztecs used a substance called *teonanācatl*, or the flesh of the gods, to induce a trance where they communicated with their deities. After the Spaniards conquered the Aztecs, Catholic missionaries campaigned against the use of hallucinogenic plants and mushrooms. They believed that these hallucinogenic plants allowed the Aztecs to communicate with the devil, which was strongly against their religion. Despite this, the use of *teonanācatl* has persisted in some remote areas.

Magic mushrooms have long been utilized for both therapeutic and spiritual uses by different societies. Various studies have proved the use of psychoactive substances such as magic mushrooms or peyote among pre-Columbian Mesoamerican societies. In Siberia, the use of psilocybin mushrooms has been documented extensively as indigenous inhabitants of the country drank the urine from reindeer that had consumed the well-known red and white spotted *Amanita Muscaria* mushroom. However, its effects are very different from those of psilocybin because of the

dissociative activity caused by *Amanita's* active ingredients. The ancient Greeks had a ritual known as the Eleusinian Mysteries, which is like a rebirth ceremony where participants drank a psychedelic brew known as kykeon made from ergot fungus and other psychedelic mushrooms.

In the 1950s, westerners started getting on the psychedelic mushroom train. R. Gordon Wasson, a mycologist, traveled to Mexico in 1955 to study these mushrooms. While on his Mexican expedition, he witnessed and took part in a ritual ceremony led by a shaman from Mazatec, an indigenous people who live in southern Mexico. Afterward, he wrote an article that was published in Life magazine in 1957. The editor came up with the title *Seeking the Magic Mushroom*, and that's where the term came from. One of Wasson's colleagues, Roger Heim, enlisted Albert Hofmann, the father of LSD, who helped him isolate and extract psilocybin and psilocin from the mushrooms they brought back from Mexico.

## TIMOTHY LEARY

We can't talk about psychedelic mushrooms and fail to mention Timothy Leary, a key figure in magic mushroom history. Timothy Francis Leary, an American psychologist, strongly advocated for the use of psychedelics in psychiatry, a view that switched him from scientist to counterculture celebrity. His venture into psychedelics began after reading the Life article on magic mushrooms which intrigued him and led to his participation in the Harvard Psilocybin Project from 1960 to 1962. The Harvard Psilocybin Project was a set of psychological experiments run by Leary and his partner, Richard Alpert.

The two scientists wanted to find out if taking different doses of psychedelics led to different experiences. To a larger extent, they believed that psilocybin could help Western men deal with their emotional problems. To prove this, they carried out various experiments on different groups of people to see how they affected them. In their short tenure at Harvard, they ran two notable experiments: the Concord Prison Experiment and the Marsh Chapel Experiment.

The Concord Prison Experiment was intended to evaluate whether giving psilocybin to inmates would induce experiences that resulted in the reduction of recidivism. The treatment included taking doses of psilocybin combined with psychotherapy to inspire inmates to leave their antisocial behavior behind and lower their chances of becoming repeat offenders. The success of the experimental study would be judged by comparing the recidivism rate of the participants versus the average Concord inmates. Statistics from the prison indicated that of the 32 subjects, about 64 percent would be back in prison after their parole. However, after the six

months lapsed, only 25 percent had returned. Further evidence from personality tests taken by the participants showed there was a measurable positive change post-psylocybin intake.

The Marsh Chapel experiment was designed to investigate the entheogenic uses of magic mushrooms. This experiment was conducted on Good Friday at Boston University's Marsh Chapel. Walter N. Pahnke designed the experiment under Leary's supervision to investigate whether psilocybin would be a reliable entheogen. Before the Good Friday service, 20 divinity graduate volunteers were divided into 2 groups. In the double-blind experiment, ten of the participants were given psilocybin while the other was given a large niacin dose. Niacin, also known as nicotinic acid, produces visible physiological changes and was used as an active placebo for the experiment.

The physiological symptoms induced by niacin led some of the test subjects to believe they had taken psilocybin; however, the symptoms subsided after about an hour of getting the dose. In the meantime, those who took psilocybin experienced intensified effects after the first few hours. In the end, all participants reported having profound religious experiences, which provided more evidence for the notion that psychedelics can facilitate spiritual experiences.

Despite these findings, Leary's work was shut down after other professors in the Harvard Center for Research in Personality voiced concerns about the legitimacy and safety of the experiments he and his team were running. The fact that Leary and Alpert took psychedelics with their students during the experiments also cast a huge shadow on the legitimacy of his work. Even though he and Alpert pioneered the scientific research on psychedelic drugs, their later antics ruined it for other scientists. At the time, only mescaline and peyote were illegal; however, Leary's antics created a backlash that resulted in the criminalization of psychedelics, making it nearly impossible to do research on them for decades to come.

Today, magic mushrooms have found a more accepting home in pop culture, which has led to the recent surge in microdosing with magic mushrooms. As it slowly transitions from a hippie high to something with more concrete benefits, psilocybin has garnered interest from the scientific community. However, thanks to Leary and his cohorts, this research had to take time as psilocybin was banned. Thankfully, things are changing and now researchers can legally test magic mushrooms. In 2018, the FDA allowed Compass Pathways to research how magic mushrooms can help deal with depression. Researchers at Compass plan on combining intense therapy with doses of psilocybin in hopes of finding better ways to deal with treatment-resistant depression, which affects a lot of people globally.

In 2019, Johns Hopkins University opened its Center for Psychedelic and Consciousness Research as a place for researchers to evaluate the potential

of psilocybin as a possible treatment for various diseases. These include PTSD, Lyme disease, opioid, alcohol, and nicotine addiction, etc. Other institutions such as the University of Toronto, the Heffter Institute, and the Berkley Foundation are all contributing to psilocybin research. These studies are helping push for the decriminalization of psychotropic substances. As more researchers dig deeper into the possible medical uses of psilocybin, we now understand how this compound interacts with our physiologies. Inspired by those ancient cultures that first started using it, perhaps now we will get to safely unlock the doors of perception in our minds and experience things we can't even imagine.



## THE MUSHROOM MICRODOSE EXPERIENCE



**A** big reason why magic mushrooms are such a big hit is all the stories we hear about them. Those who have partaken in these psychedelics have had different experiences and are not shy about sharing their stories. Since these drugs are still illegal, there's very little scientific research on the matter; no rigorous clinical trials detailing the effect of microdosing on your life. Instead, there's a sea of anecdotal evidence from microdosers. If you have wondered what taking mushrooms would feel like, these stories can help give you a glimpse behind the curtain.

Kai is a software developer based in San Francisco. He started microdosing in 2016 to help him deal with his social anxiety, which kept him from progressing professionally. Kai was asked to give a TEDx talk once but declined because he felt he wasn't ready. He says that this is probably his biggest regret. After he started microdosing, he noted he felt less anxious, less depressed, and more open to interaction with others. He also noted that he was more present in the moment, which was great for socializing. On the downside, he did note that he was more aware of his negative emotions since he felt things more intensely while microdosing. Overall, he felt that everyone would benefit from microdosing. How much they should take and how often will depend on the individual and what they are looking to get out of it.

Rosie, a mother of two, started microdosing last year. She was tired of feeling exhausted all the time. As she took her kids to school one day, she was talking to some of the other mothers, and they were all raving about how microdosing had increased their productivity, enhanced their relationships, and improved their parenting. Rosie was intrigued and asked how she could acquire some. The next day, another mom, Margaret, brought her a small baggie filled with dried mushrooms and carefully explained how to use them.

"I take a very small dose every 3 or 4 days," she said as she swallowed the gel cap she made by painfully measuring out her dosage with a digital jewelry scale. "I've heard stories of people overdosing and having full-blown trips. I don't want my kids thinking I have a drug problem. I just need an occasional pick-me-up. It has taken me from a place of constant anxiety to a more chill, confident place. I feel that I can take everything on, not cower and hide." For Rosie and many other women, taking psychedelic drugs is sub-perceptual; you don't feel high, you just feel better.

Sitting on a hospital bed waiting to take psilocybin capsules, Michael had no idea what was going to happen. The 50-year old website developer had battled depression since his twenties. He tried different treatments, therapies, and drugs, all to no avail. In the last six months, things seemed to go from bad to worse, and then, straight to hell. First, he lost his mother to cancer, then a close friend of his took his own life due to depression. These events had left him at one of the lowest points in his life. In a desperate attempt to escape, he searched online to see if the mushrooms growing in his backyard were the psychedelic variety. At this point, he was open to trying anything; that's when he came across a medical trial at the Imperial College in London.

Fast forward, here he was, taking magic mushroom pills, anxiously waiting for them to kick in. After a while, he saw bright lights leading into the distance, and he followed them, taking a 5-hour journey into his mind. He relived various childhood memories and even confronted his

grief. Over the next three months, his depressive symptoms decreased; he was more upbeat, accepting, and enjoying things he had come to feel apathetic about, such as having fun with his family. "I became a different man. Instead of dreading the day, I can't wait to get dressed, go out, and see people. I'm more confident, like I was when I was twenty, before the depression started."

While most stories show the positive effects of taking psilocybin, there have been a few mishaps. As a teenager, Jamie indulged in a lot of drugs, from smoking weed to abusing alcohol and occasionally taking psychedelics such as LSD. Her first experience on magic mushrooms was life-changing in the most conscientious and transcendent way. This teenage foray into psychedelics was so amazing that she wanted to try it again.

Unfortunately, her thrill-seeking posse knew nothing about dosing with psychedelics, so they gobbled down the mushrooms like they were at an all-you-can-eat buffet. And luckily all went well. However, before taking psilocybin for the second time, a little voice in her mind told her, since you had such an awesome time last time, why not double your pleasure by eating double the mushrooms than last time. As a public service announcement, if you're planning on trying magic mushrooms, be careful and very vigilant about the amount of psilocybin you ingest in relation to your body weight, the food in your stomach, and your tolerance levels.

In pursuit of a higher high, Jamie ate twice as many mushrooms, which half an hour later led her through one of the most terrifying trips she ever had. She felt as though her mind was falling apart. The trip had her questioning her very existence and if anything even made sense anymore. She was trapped in a place that amplified her anxieties, an abyss of nothingness for hours on end. This needs to be pointed out: psilocybin is some powerful stuff. After tripping her brains out and thinking her mind would never recover, Jamie was so grateful to feel lucid and clear-headed again. This bad trip inspired her to learn more about psilocybin and how to take it safely.

Like Rosie, Christa started microdosing as a means to address some mental problems she was going through after suffering a serious breakdown a few months prior. She said the first day she microdosed was the best day she had in the last five years. "For so long, I'd felt like I was sedated, and it made me so miserable because I always thought about how I used to be excited and enthusiastic about life."

"When I took the first dose, it was like a light bulb lit up in my head. I was giddy and so glad to be alive; something I hadn't felt in quite a long while." Eager to share this new experience with her husband, Christa told him everything about how she felt. Unfortunately, unlike her, his first time wasn't all roses and daisies. He had a massive panic attack. It seemed that the psilocybin amplified his anxiety. Despite this bad trip, he has

done it many more times since then, especially because he saw how much Christa's mental wellbeing improved. Even his anxiety reduced; however, he does acknowledge that microdosing shouldn't be taken lightly, especially if you have a mental health condition. He still finds that if he is feeling a bit anxious, it's best not to microdose. Christa also notes that microdosing doesn't help with every task. While it might help her be more creative or interact better with her employees, it can lead to lowered focus levels or getting easily distracted,

As you can see, the experience of microdosing mushrooms is widely varied. Through the good and bad, there are several common sensations and effects reported by those who have tried it out. While some find that it has cognitive-enhancing effects, others claim it eases their anxiety, and sparks out-of-the-box creativity and problem-solving.

At this point, you have an idea of what taking psychedelics can do. When microdosing, you may feel pain relief, less anxiety, energy, and a warm sensation in your fingers or toes. You may feel happy, euphoric, focused, attentive, emotional, creative, or even anxious. Alternatively, you may find yourself letting go, being more open to others and mindful of your surroundings, more present, distracted, tolerant, or more sensitive. Whatever you experience is purely subjective and will not be what someone else experiences. The only way to truly know what microdosing feels like is to try it.

## DOES MICRODOSING MUSHROOMS REALLY WORK?

Given that a lot of the evidence supporting the use of psilocybin is mostly anecdotal, you may be a bit skeptical about trying it. However, these anecdotes were enough to spur the scientific community into continuing research into magic mushrooms. Claims by microdosers that it can improve your health, strengthen relationships, and increase productivity are surprising given the minuscule doses they take.

### *What the science says*

Even though most of what we know about the effect of psilocybin is purely anecdotal, there are scientists who have tried to find out if psilocybin has any medicinal value. Previous studies, such as those led by Leary, showed that microdosing could lead to improved mood and energy levels, enhanced creativity, wisdom, and changes in how we perceive time. However, these findings were hard to go by as most of these studies relied on asking the participants to complete ratings or behavioral tasks as one-off measures instead of continuous observation.

Take the Concord Prison experiment, for instance; a study done after the fact to verify the results of the experiments showed major inconsistencies in its findings. The follow-up study cited several issues, such as different time lengths after release between the control group and the participants. Other methodology inconsistencies reported included the difference between individuals who were readmitted to jail for violating parole versus inmates who were booked for additional crimes. It was concluded that the experiment showed statistically slight improvements instead of the radical improvements that Leary reported. However, Leary still maintained that the key to preventing and reducing recidivism might be combining psilocybin-assisted therapy pre-release treatment with follow-ups, after release, such as those modeled after Alcoholics Anonymous to support released inmates. Hopefully, the positive effects would become permanent.

Thankfully, research into psilocybin has come a long way, and a lot more studies are being conducted on the various benefits of psilocybin. Researchers from the Cognitive Psychology Unit and Leiden Institute for Brain and Cognition at Leiden University conducted a study on the effects of microdosing on creativity. Led by Luisa Prochazkova, the researchers administered psychedelic truffles to the participants and examined their effects on two creativity related problem-solving tasks. They included the picture concept task to assess convergent thinking and the alternative uses task to assess divergent thinking. They also administered a short version of the Raven's Progressive Matrices task to gauge potential changes in fluid intelligence.

The study found significant improvement in both convergent and divergent thinking after a non-blinded microdose, but fluid intelligence was unaffected. Despite these findings, the researchers noted the need for more research, as their study didn't have a control group, so they could not rule out that the changes exhibited were caused by something other than the truffles. Despite these reservations, the outcome of the study was consistent with the idea that microdosing psychedelics improves both convergent and divergent thinking.

Another notable study into the potential of psilocybin is the medical trial conducted by researchers at the Imperial College in London. The trial was the first modern study to research treating treatment-resistant depression with psilocybin. All volunteers of the study had severe depression whose symptoms had failed to improve on at least two standard antidepressants. After receiving two treatments, nearly half the participants reported a 50 percent reduction in their depressive symptoms, and this held steady for about 3 months. Given the positive feedback, the research team at Imperial College London has undertaken a second trial, a more rigorous and ambitious effort to test psilocybin on a larger group as

well as have a control group and compare its performance to a common antidepressant. So far, results have been promising.

Professor Carhart-Harris, one of the researchers who ran the trial, concluded that the reason psilocybin is so effective at treating depression is because it helps patients see their lives more clearly and even work through a lot of the issues they have. However, it's still unclear how much of the depression alleviation comes from the psychiatric support around the treatment.

Johns Hopkins University also conducted a study on 51 patients who had life-threatening cancer. The results showed that taking psilocybin significantly reduced end-of-life depression and anxiety rates among 80 percent of the cases in over 6 months. In other cases, it helped these patients come to terms with their conditions and accept their fate. Similarly, a study by researchers at New York University showed similar results. Current studies at Johns Hopkins are also looking into using psilocybin to reduce smoking and alcohol dependency.

If this recent wave of research is anything to go by, there's a lot of potential in psilocybin. However, much of the neuroscience behind psychedelics is still unknown, but fMRI taken during these studies showed reduced blood flow and reduced activity in the amygdala, a part of the brain that's often overactive during depressive and anxious periods. They also showed what seemed like resetting of the brain as neural network connections loosen and reintegrate with others. This rewiring may result from psilocybin driving users to rethink entrenched beliefs, break or forgo compulsive thought patterns and habits.

Researchers believe that psilocybin operates differently than common antidepressants. Where common antidepressants dull emotions to help you cope, researchers theorize that psilocybin works on the serotonin system to heighten emotional responses and encourage you to actively confront depression, which can lead to enduring changes in the mindset. That said, psilocybin is not a miracle cure. It should be used in conjunction with other treatments, such as cognitive-behavioral therapy. Psilocybin proponents are hoping that these trials and studies will provide the evidence needed to get it approved for mainstream use in treating treatment-resistant depression and other conditions.

## BENEFITS OF MICRODOSING PSILOCYBIN

A lot of the evidence about the benefits of microdosing is anecdotal, meaning there were no controlled scientific studies and thus no evidence to help scientists understand the benefits and downsides of microdosing. In response to this, Thomas Anderson, a psychology Ph.D. candidate at

the University of Toronto, and his associates carried out a study to determine if there are any benefits to microdosing. The study was based on qualitative reports of real-world samples from the experience of 278 microdosers. The outcomes of this study showed the following benefits of microdosing.

**Improved mood**—Of the 278 microdosers who participated in the study, 26.6 percent of them reported that their moods improved after microdosing. Participants reported increased feelings of happiness, peace, calmness, and reduced depressive symptoms. Others reported improved outlooks on life, optimism, a greater appreciation of life, spiritual and emotional insights, and being more in touch and aware of their emotions.

**Improved focus**—The second most recorded benefit was improved focus, with about 14.8 percent of the participants reporting increased focus, concentration, mindfulness, conscious awareness, alertness, and increased engagement. This increased focus can be attributed to psilocybin's ability to help users relax and drown out the noise.

**Increased wisdom and creativity**—In the study, only 12.9 percent of the respondents reported increases in creativity. This category included meta-creative processes such as creativity, shifting perspectives, curiosity, openness, divergent thinking, and wisdom. Wisdom and creativity are tricky things to define; however, in this case, we can define wisdom as the ability to consider multiple perspectives, learn from mistakes and be in tune with your emotions and other people; having a deeper sense of connection with others. With this definition in mind, microdosers have been found to be wiser as they are more open-minded. Alternatively, creativity is the ability to turn new and imaginative ideas into reality. It is the ability to perceive the world in new ways and find hidden patterns and unrelated phenomena to develop new solutions. With this in mind, microdosers are more creative. This increased creativity and wisdom can be attributed to improvements in their divergent thinking.

**Reduced anxiety**—Early anecdotal evidence shows that psilocybin has the potential to help with mental health conditions, such as depression or even end-of-life anxiety. Surprisingly enough, only about 4.2 percent of the participants reported reduced levels of anxiety. This category also included those who reported reduced levels of social anxiety. This, however, doesn't mean that psilocybin has very little effect on mental health conditions. As a matter of fact, it has plenty of potential if results from the clinical trial conducted by scientists at London's Imperial College are to be believed. A study published in the *Psychopharmacology* journal showed that psilocybin does improve mental health. Out of the 1,102 volunteers who participated, 57 percent had been previously diagnosed with a mental health condition. After the psilocybin treatment, 44 percent of all the participants said microdosing improved their mental health significantly,

with 50 percent of them reporting they stopped taking medication for their anxiety and depression.

**Self-efficacy**—About 11.3 percent of the volunteers reported improvements in self-efficacy. This includes feelings of motivation, productivity, confidence, and ambition. They also reported improvements in self-care behaviors such as introspection, meditation, mindfulness, and so on.

**Social benefits**—Out of the sample group used in the study, about 7.6 percent reported improvements in their social life. This refers to reduced social anxiety levels, which lead to increased levels of extraversion and a sense of connection with others. The calmness induced by the magic mushrooms caused increased feelings of empathy and the confidence to express thoughts verbally.

**Cognitive enhancement**—This refers to improvements in cognitive function. About 5.8 percent of the participants reported improvements in various cognitive functions such as problem-solving, analysis, conceptual thinking, and understanding. Microdosing on psilocybin also enhances thought clarity by fostering clear-headedness and lucidity.

Other benefits of microdosing magic mushrooms include physiological enhancement, with about 3 percent of the volunteers reporting improvements in various biological functions. This includes improved cardiovascular endurance, reduced migraines, headaches, enhanced senses, and better sleep quality. About 1.1 percent of the respondents reported noting a reduction in their symptoms in reference to stress, trauma sensitivity, and even substance dependence. On the other hand, 10.5 percent of the respondents reported improvements in energy levels as they felt more alert, stimulated, and awake.

## HOW LONG DO MUSHROOMS STAY IN YOUR SYSTEM?

You could be wondering if you were to take magic mushrooms, how long will they take to kick in, how long the high will last, and how long will they stay in your system? Psychedelic mushrooms affect everyone differently, based on:

- Your body—everyone is different, and as such, no two people process substances the exact same way. Factors such as your BMI, metabolism, weight, and even the amount of water you drink can affect how psilocybin will impact you and how long it will take for you to excrete it. Aside from physical factors, your mental health also affects how the mushrooms will affect you. For

instance, if you are anxious, you are more likely to have a bad trip as the mushrooms can amplify your anxieties.

- Your tolerance—tolerance refers to your body's ability to get used to psilocybin, weakening its effects. Simply put, with a high tolerance, you would need to ingest higher doses to get the same high. As with any other psychoactive substance, developing a high tolerance can be dangerous as it can lead to overdosing. Your tolerance is highly dependent on your body chemistry and other internal factors.
- Your age—this goes back to how our body metabolizes the psilocybin. When you are younger, your liver and kidneys metabolize substances a lot faster; however, these functions slow with age, leading to delayed excretion of psilocybin from your body.
- Delivery mode—how you ingest the mushroom will affect the kind of high you get. Some people report that the high from edibles kicks in faster, is more intense, and lasts longer than other methods. However, popping a mushroom pill is easier than making mushroom tea. Each ingestion method has its own variables. For instance, mushroom teas kick in faster than capsules. Similarly, dried mushrooms are more potent than fresh ones.
- The dosage—this factor has the biggest influence over your high and how long it lasts. Microdosers take a small fraction of a full dose; however, the exact amount is still up for debate. It's easy to measure out magic mushrooms in powdered form, but it's a lot harder to determine the exact dosage taken in edible form. This means that the inconsistencies in dosages can make you have different highs each time. Additionally, a larger dose will take a longer time to get out of your body and can affect you differently.
- Mushroom species—there are nearly 200 psilocybin-containing mushrooms, each with a different amount of psilocybin and psilocin. The more potent the mushroom species, the higher the high and the longer it stays in the body.
- Other substances—using mushrooms and other substances can have unpredictable effects on you. For instance, mixing alcohol and magic mushrooms will affect how your body processes psilocybin. Additionally, each substance has a different effect on the brain, so a mix of the two could lead to a really bad trip. As a precaution, you should note that since mushrooms are still a controlled substance, unscrupulous individuals may lace the mushrooms with other substances to give it an extra kick, which might affect your high.

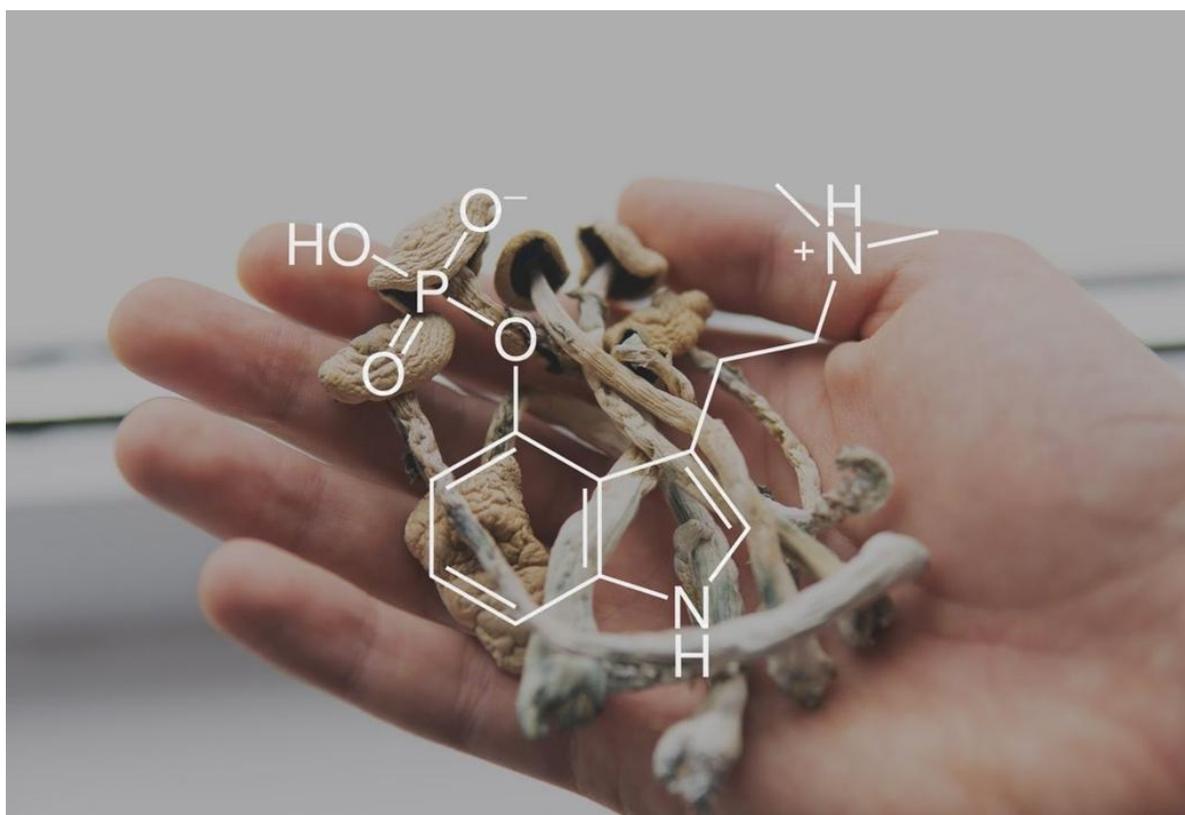
All of these factors will affect how long the mushrooms will take to get out of your system and more. Generally, psilocybin mushrooms take about 30 minutes to an hour to kick in. However, this will all depend on how you ingest them. Fresh or dried mushrooms can be ingested on their own, mixed with food, or steeped and taken as a brew. When taken in tea form, magic mushrooms can kick in as fast as 5 to 10 minutes after ingestion. A mushroom high can last anywhere between 4 to 6 hours though it might feel a lot longer to some. After your trip, you may experience lingering effects that can last well into the next day.

Bad trips, on the other hand, are harder to shake off. Certain factors can cause their effects to linger and increase the time you'd need to come down from the trip. These include the dosage taken, what mushrooms you ingested, how you consumed them, whether they were fresh or dried (dried mushrooms are more potent), your age, tolerance levels, expectations, underlying mental conditions, the frame of mind you are in, and if you took other substances along with the mushrooms. Luckily, most people recover from bad trips after about a day.

Magic mushrooms are expelled from your body quickly, but the variables mentioned above can affect how high you can get and how long they last in your system.



## PSILOCYBIN 101



**A**t this point, you have a slight idea of what psilocybin is, but let's get a clearer definition. Magic mushrooms are fungi that contain psychoactive compounds known as psilocybin and psilocin. These naturally occurring compounds can cause hallucinations through 'trips' that allow you to experience mystical-type occurrences as well as other effects. The Substance Abuse and Mental Health Service Administration ranks psilocybin mushrooms as the best known natural psychedelics. Calling these compounds hallucinogens is an inaccurate generalization as this hallucinogenic effect doesn't always occur in all users. That's why they are referred to as psychedelics.

As a prodrug, the psilocybin compound is quickly converted by the body to psilocin and can have mind-altering effects similar, in some aspects, to those caused by LSD, mescaline, or DMT. Generally, the effects include euphoria, visual and mental hallucinations, perception changes, a sense of time distortion, and spiritual experiences; however it can also induce possible adverse reactions such as nausea, anxiety, and panic attacks.

There are over 200 mushroom species that contain these compounds. The most potent members are part of the *Psilocybe* genus, such as *P. azurescens*, *P. semilanceata*, and *P. cyanescens*, but the psilocybin compound has also been isolated from other species. Psilocin and psilocybin are not the only derivatives obtained from these mushrooms. Some mushrooms contain nor-psilocin, baeocystin, nor baeocystin, aeruginascin, and amanitin. The latter is not a psychedelic substance, but it is deadly, and many unsuspecting victims have lost their lives to it.

Even though magic mushrooms have a long history, the active compounds giving mushrooms these psychedelic properties were not isolated until 1958. When R. Gordon Wasson returned from Mexico, he came back with a sample of these trippy mushrooms. His colleagues, Roger Heim, enlisted Albert Hofmann, the father of LSD, to help him isolate and extract psilocybin and psilocin from the mushrooms. Hofmann's employer marketed and sold the pure psilocybin to physicians and other medical practitioners all over the world for use in psychotherapy. However, due to Leary's charades and antics, the drug laws became increasingly restrictive in the late 1960s curbing any further research into this compound.

So what do these trippy mushrooms look like? Magic mushrooms look a lot like ordinary ones; however, since there are so many species that contain psilocybin, it can be hard to tell the difference between them and the poisonous variety. Magic mushrooms are often consumed in their dried form, as they are more potent that way. They can be eaten mixed into food, drinks, or directly. Some people even eat freshly picked mushrooms. When dried, these magic mushrooms look like ordinary mushrooms with long, slender stems that are whitish-gray and dark brown caps with light brown and white hints in the center. They can also be rusty brown with off-white shades here and there.

## THE METABOLISM OF PSILOCYBIN AND PSILOCIN

Psilocybin and psilocin are the two main hallucinogenic compounds found in magic mushrooms. They are tryptamine alkaloids that act as agonists and partial agonists to serotonin. An agonist is a chemical compound that binds to a receptor and activates the receptor to induce a

particular biological response. The chemical structure of psilocybin and psilocin is quite similar; however, psilocybin has an additional phosphate and hydroxyl group. As structural agonists to serotonin, they have a similar structure to the receptor but differ, since the hydroxyl group in serotonin is positioned differently.

Psilocybin is a prodrug of psilocin that means that it undergoes chemical changes that convert it into its active form, psilocin, when absorbed. This chemical process, referred to as dephosphorylation, takes out the phosphate group from psilocybin, creating psilocin. This dephosphorylation process occurs in 2 ways. First, the acidic nature of the stomach makes it conducive to the rapid dephosphorylation of psilocybin. Secondly, enzymes in the intestines, kidneys, and blood such as alkaline phosphatase and non-specific esterases dephosphorylate psilocybin into psilocin.

The phosphate group in psilocybin is highly polarized. This polarity, paired with the positively charged amine group, makes psilocybin more water-soluble than psilocin. Similarly, if you were to remove the phosphate group from psilocin, it would become more soluble in lipids as compared to psilocybin, making it metabolically available in the body and more easily absorbed in your guts. After this, psilocin is absorbed into your bloodstream and distributed all over your body. Since it is lipid-soluble, it can easily cross the blood-brain barrier to combine with serotonin.

Psilocin can be detected in the blood about 20 to 40 hours after ingestion; however, optimal absorption levels are reached after about one and a half hours to two hours after ingestion. After about 80 percent of the compound has been metabolized, the kidneys excrete psilocin as a conjugated form with glucuronic acid. Although this sounds a bit technical, understanding these compounds' chemical makeup is integral to understanding how they interact with your body.

## HOW THEY INTERACT WITH YOUR BRAIN

Thanks to modern neuroscience, we can now understand how psilocybin interacts with serotonin receptors in your brain, inducing a wide range of consciousness-altering effects. Serotonin is a hormone and monoamine neurotransmitter molecule found in our brains. The serotonergic neurotransmitter system is among the oldest systems in existence as primordial forms of the receptors are believed to have appeared about 700 million years ago. Serotonergic neurons come from cells in the brain stem and form a network that encompasses every part of your brain. These serotonin receptors play a key role in regulating your mood, aggression, impulse control, sexual behavior, cognitive function, pain,

appetite, sleep, memory, thermoregulation, and circadian rhythm. Basically, these molecules control a lot of what people do.

Serotonin is sometimes referred to as the happiness or confidence molecule, and studies have shown that alterations in its levels can significantly affect our mood. For instance, low serotonin levels can lead to depression, while high levels create a happy, positive, confident mood. There are 7 main classes of serotonin receptors; of these, the 5-HT<sub>2A</sub> receptor is the most studied in relation to psychedelic effects. Psilocybin has a low binding affinity to 5-HT<sub>2A</sub> as compared to psilocin; that's why the body converts it into psilocin. Therefore, it's safe to say that psilocin is primarily responsible for the psychedelic effects magic mushrooms have.

The 5-HT<sub>2A</sub> receptors belong to a special group of receptors referred to as G-protein receptors. As one of the largest and most diverse protein families found in humans, these receptors have a unique structure. When a compound such as psilocin binds to these receptors on a cell, it stimulates the production of an enzyme called phospholipase C, which in turn induces the production of protein kinase, which then stimulates the release of calcium ions from the cells. This enzymatic and biochemical process results in cellular changes that produce the perceived effects you feel when you microdose mushrooms.

This is a very small glimpse into how psychedelics work. When taken in higher doses, the effects could be amplified. That's why renowned social psychologist Roy Baumeister and his colleagues reviewed the pharmacodynamics of classic hallucinogens and derived 3 mechanisms by which they work or can work in the brain. Hallucinogens can disrupt normal serotonin pathways in the brain in several ways. First, by binding to presynaptic 5-HT<sub>1A</sub> receptors in the Raphe nuclei that project into the prefrontal cortex and subcortical structures in the brain. This would then alter the serotonergic output to the rest of the brain. Secondly, they can bind to the postsynaptic 5-HT<sub>2A</sub> receptors in cortical neurons, changing the cellular signaling and functioning of the cell via the excitatory amino acid glutamine. These effects are described as complex manifestations in the consciousness or mystical and spiritual experiences. Lastly, they can disrupt the serotonergic process by binding with reticular postsynaptic 5-HT<sub>2A</sub> receptors. In doing so, they affect the sensory input going into the brain since the reticular nucleus of the prefrontal cortex controls sensory input. This binding causes psychedelic experiences by altering sensory data. That's why people who have taken psychedelics say they see colors more vividly or taste things better.

The pharmacology of psilocybin and psilocin is complicated and fascinating. By understanding how these compounds interact with different compounds in the body, you can get a better understanding of how psychedelics work.

## TYPES OF PSILOCYBIN MUSHROOMS



There are over 200 mushroom species that contain psilocybin and psilocin. On top of all that, some species have different strains with their own signature shape, flavor, and psilocybin levels, such as *psilocybe cubensis*. Given that most of them grow wildly around the world, it pays to know which mushrooms can get you high and which can kill you. However, since there are a lot of psilocybin mushrooms out there and with their different strains, we can't cover all of them. So let's go through several psychedelic mushroom species.

*Psilocybe cubensis*



If you have ever taken magic mushrooms but had no idea what species it was, there's a big chance that it was a strain of *Psilocybe cubensis*. This mushroom is on the larger side when it comes to magic mushrooms, and it's also the most common species known. It grows in moist, humid areas but can also be found growing on the dung of animals such as cattle. Also called the golden cap, cubies, cubes, golden tops, boomer or Mexican mushroom, *psilocybe cubensis* has a reddish-brown cap sometimes seen as light brown with a white or yellowish stem. They can grow anywhere between 1.5 to 8 centimeters. When bruised, the flesh turns bluish, and to some, this a clear indication that you have found a magic mushroom. However, you should know that some toxic mushrooms also turn blue when bruised.

Golden cap mushrooms don't just contain psilocybin; they also have other psychoactive molecules such as psilocin, baeocystin, and norbaeocystin. The symbiotic interplay of these and other chemical compounds in these mushrooms contribute to its psychotropic effects. Because of this, the experience of taking a whole mushroom as opposed to a synthetic isolate of psilocybin can be great. This effect is similar to the entourage effect experienced by cannabis users, where terpenes affect your experience with the weed.

Mexican mushrooms are the easiest mushrooms to grow indoors, and thanks to all the resources available now, there are over 60 strains of this species, such as the Golden teachers, B+, and pink buffalo. Even though

magic mushrooms grow in the wild, indoor-grown mushrooms are a lot more potent than wild mushrooms. This is because they are bred for strength and grown in specific substrates to increase their potency. Paul Stamets, the author of *Psilocybin mushrooms of the World*, refers to *psilocybe cubensis* as the most majestic psilocybe species because of its easy to recognize color and size. However, its color depends on its level of hydration and can turn blue if exposed to oxygen; that's also why it turns blue when bruised. Even though cubes are the most well-known and widely consumed mushrooms, they are not the only ones.

*Psilocybe semilanceata*



Also known as Liberty Caps or witch hats, these are the most predominant naturally growing mushrooms in the world. Discovered in 1838, these mushrooms are ranked as the third most potent psilocybin mushrooms. They are wildly popular and plentiful in the Northern Hemisphere, especially in England. There were various reports of people tripping on these mushrooms. One family reportedly picked these wild mushrooms and after consuming them, one son started laughing

uncontrollably, while the father thought he was dying and the rest of the family had vertigo.

Witch hats are small and can blend with the grass because their stems are short. In fact, they are the smallest mushrooms among the most potent psilocybin mushrooms. Even though they grow wild outdoors, they are notoriously hard to cultivate indoors, so most liberty caps that are consumed are picked from the wild. They have a conical or bell-shaped cap and a thin stem, with some people claiming that they taste similar to flour. Be very careful when foraging for these mushrooms because they look very similar to poisonous species that grow in the same areas as they do.

*Psilocybe azurescens*



These mushrooms, also known as flying saucers, blue angels, or azzies, are the most potent psilocybin species that grow in the wild. Blue Angels are only found on the West Coast from California to Washington and mostly cluster along the Columbia River delta in Oregon. This is because they grow well in sandy soil, such as near dunes or on dead decaying wood. These mushrooms can withstand cold temperatures of anywhere between 16 to 24 degrees, unlike other psilocybin species. This makes them

easy to grow outside, but unfortunately, they are known to have a very bitter taste.

They contain some of the highest percentages of psychotropic compounds with up to 1.78 percent for psilocybin, 0.38 percent for psilocin, and 0.35 percent for baeocystin. To put this into perspective, that's about four times what the other two mushroom species we looked at have. That said, a gram of dried *P. azurescens* can be quite potent, so tread carefully when microdosing it. Flying saucers are known for their ability to induce intense visuals and profound inner journeys, and a favorite among microdosers as a small amount goes a long way. However, there are potential side effects such as paralysis if you ingest high doses of the fungi. Even though this paralysis is temporary, it can induce a panic attack if you are not prepared.

### *Psilocybe tampanensis*



This species produces truffles that contain psilocybin. These truffles are also known as magic truffles, philosopher's stones, or psilocybin truffles. These mushrooms can also bloom into small yellowish-brown mushrooms with conical caps; however, they are mostly cultivated for their truffles, which grow underground and contain about 0.68 and 0.32 percent psilocybin and psilocin, respectively. It is very rare to find these mushrooms in the wild as they are quite popular with home cultivators because they are easy to grow.

Taking magic truffles is quite similar to taking magic mushrooms; however, it can be somewhat less intense depending on the dose.

Additionally, there have been reports that the body load can be heavier, and you might experience more nausea due to the dense nature of the truffles. Despite the illegality of psilocybin mushrooms, magic truffles are sold in specialty shops, thanks to a legal loophole. Just like other psychedelic mushrooms, the trip will depend on you, your experience, the dosage, as well as the set and setting in which you take it.

*Psilocybe cyanescens*



They are called wavy caps because of the rippled shape of the mushroom cap. Discovered by Elsie Wakefield in 1946, they are believed to be native to central Europe and the Pacific Northwest. However, they are now very widespread because of the environment they prefer: wooden debris such as that found on wood chips or mulch can be found all over parks, gardens, and trails. Actually, that's how they are thought to have spread so much: from lumber to mulch and gardens around the world.

Notoriously difficult to cultivate indoors, they grow in the wild and are popular with mushroom microdosers for their strength. Similar to blue angels, these wavy cap mushrooms can be quite potent. They can contain anywhere from 0.3 to 1.68 percent psilocybin, 0.25 to 0.51 psilocin, and 0.02 to 0.03 percent baeocystin. In the wild, they grow in enormous patches and are more potent when consumed fresh rather than dry.

*Copelandia cyanescens*



These mushrooms are also known as blue meanies, not to be confused with the *psilocybe cubensis* strain of the same name. The *Copelandia cyanescens* species has several distinctive features. For instance, they are not from the *psilocybe* genus but the *panaeolus* genus. Despite this, they still contain psilocybin and are actually among the most potent strains in the world. They prefer growing in dung, so they can be found near pastures and are quite similar to the *Panaeolus tropicalis* mushrooms.

*Psilocybe caerulescens*



Also known as landslide mushrooms or derrumbes, these wild mushrooms were first discovered in Alabama in 1923, growing on sugar mulch. These are the mushrooms that Gordon Wasson, the mycologist who went to southern Mexico to research magic mushrooms, ate. Derrumbes are grown by the Mazatec people of Mexico. Since they are resilient to cold temperatures and high altitudes, they tend to grow on former landslide sites and other areas free from plants, especially during the rainy season. Landslide mushrooms grow to about 12 centimetres tall and have a silvery-blue metallic luster, making them easy to spot. Their psilocybin potency is moderate to low and can induce a short trip lasting anywhere between 3 and 6 hours. Because of this, they are excellent for novices but can be a disappointment if you are looking for something more potent.

*Psilocybe Mexicana*



Also known as teonanacatl, or pajaritos, this mushroom species has a long, rich history. It is believed to be what the Aztecs used in their ancient rituals. This is also the same mushroom species that Roger Heim sent to Hoffman, from which Hoffman isolated psilocybin and psilocin for the first time in a lab. It grows in the wild across Mexico and prefers high altitude areas close to moss, meadows, and deciduous forests because the soil is rich in manure. Unlike other mushrooms, it does not grow directly on dung. Today, these mushrooms are called pajaritos, meaning “little birds,” as they pack quite a punch even though they are small. They resemble liberty caps and can grow like truffles; however, their fruiting bodies tend to contain more psilocybin, baeocystin, and psilocin than the truffles.

*Psilocybe caerulipes*



The blue foot mushroom is a rare species that grows in the US, named after its appearance. They have a bluish hue at the base of the stem and a conical cap. You can find these wood-loving fungi mushrooming around decaying hardwood, especially near rivers. They can also germinate on hardwood ash and debris. Even though they are widespread across the midwest and the eastern US, even going all the way into Canada, these mushrooms are still rare to find. Because of this, they are known to grow in the same place for many years. They contain moderate amounts of psilocybin and have a similar potency to cubes. Despite this, they can induce strong trips, so start small, taking about 1 to 3 grams of the dried mushrooms before increasing the dosage for headier trips.

*Psilocybe stuntzii*



Lastly, the blue ringer mushroom or Stuntz's blue legs is a rare mushroom species that grows on the US West Coast and Canada. Their name comes from the significant bluish reaction that occurs when they are handled. Similar to cubes, this bluish tinge comes from oxidation. *P. stuntzii* are wood loving mushrooms and grow on decaying wood, fresh mulch, or wood chips. They can also sprout in grassy areas such as on freshly sod and well-manicured lawns, along roads, gardens, or even paths. They look very similar to *Galerina marginata*, which is toxic. However, unlike the toxic mushrooms, blue ringers are sticky to the touch when moist. The orangish brown cap or the rusty spores of the *G. marginata* also set it apart.

It's important to note that psilocybin mushrooms aren't the only psychoactive mushrooms. Aside from psilocybes, the second most famous trippy mushroom is *Amanita muscaria*. Also referred to as the fly agaric, this red-capped white spotted mushroom and other species from the *Amanita* genus contain very different psychoactive compounds, muscimol and ibotenic acid, which causes a very different type of trip from psilocybin. This trip is characterized by a sensation of being very small while everything else seems huge; that's why most people associate it with gnomes, elves, and dwarves because it makes you feel just like one. It is also described as depressant, dissociative, deliriant, sedative, hypnotic, and even paradoxical. This odd trip makes it quite unpopular, especially with recreational users. Although it is classified as toxic, very few people have died from ingesting the *Amanita muscaria* mushroom. After parboiling it about two times, its toxicity is weakened, and its psychoactive compounds

are released. These mushrooms are used as intoxicants and entheogens by the indigenous people of Siberia, and they are even thought to have religious significance.



Now that you know a few of these magic mushrooms, you have a better idea of what you are ingesting and what you can easily grow indoors. As a word of caution, always be very careful when foraging for mushrooms. There's a high chance you might pick toxic mushrooms, so never ingest mushrooms you can't positively identify.

## IS MICRODOSING PSILOCYBIN MUSHROOMS SAFE?

Given psilocybin's ability to alter your thoughts, perceptions, and emotions, you might be wondering if there are any side effects of taking it. Like other hallucinogens, magic mushrooms are not known to be particularly physiologically addictive, so they don't cause dependency, craving, or withdrawal. In fact, psilocybin is not considered a drug with the potential to be abused. This is because it doesn't have reinforcing properties that result in drug-seeking behaviors, since its use tends to be episodic, short term, and experimental. In general, they are pretty safe and are not known to be toxic to humans.

That said, psilocybin's ability to cause mystical and somewhat spiritual experiences can contribute to psychological dependence in some cases. Even

though indigenous cultures used magic mushrooms in many rituals, they had set rules to govern their use. However, in modern-day culture, people are free to indulge as they please. This unregulated and unguided use has become problematic; for instance, individuals with underlying psychological vulnerabilities risk experiencing psychotic episodes. On top of that, you can get mushroom poisoning and a host of other side effects such as:

- Nausea
- Increased pulse
- Chills
- Numbness
- Cottonmouth
- Lack of attention
- Loss of focus
- Lowered to no inhibitions
- Visual and/or auditory hallucinations
- Panic attacks
- Insomnia
- Synesthesia, which is mixing up your senses. For instance, you can see sound or hear color.
- Paranoia
- Altered perceptions or an enhanced perception of reality
- Euphoria
- Elevated blood pressure
- Excessive sweating
- Muscle spasms
- A sense of inflated well-being

On the extreme, some people have hallucinated to the point of causing and enduring physical pain or inflicting pain on others. According to scientists at Johns Hopkins University School of Medicine, a single strong dose of psilocybin can alter your personality for more than a year or even, in some cases, permanently.

Although there isn't a lot of research on the effects of using magic mushrooms long term, it is believed that it can create psychosis. This risk is especially high for individuals with moderate to severe mental conditions. Aside from psychosis, it can trigger schizophrenia or manic episodes, so if you have been diagnosed with bipolar disorder, schizophrenia, or even psychosis, refrain from microdosing on psychedelics. This is for your own well-being and safety. Even though you may not have these severe mental conditions, it's important to note that microdosing psilocybin can increase your emotional sensitivity that, in the

wrong environment and setting, can trigger or lead to a traumatic experience.

Additionally, since psilocybin binds to serotonin receptors, there's increasing concern that it might lead to the development of valvular heart disease, a similar side effect of other pharmaceutical drugs that bind to these receptors. However, it is still unclear if psilocybin will affect the serotonin receptors like these drugs or other factors, such as receptor stimulation or dosage levels, matter. What is clear, though, is that a lot more research is needed before you can make any conclusions about the long-term safety of taking magic mushrooms.

## PSILOCYBIN MUSHROOM ADDICTION

There's a heated debate on whether psilocybin mushrooms are addictive or not. While the jury is still out, like any substance, you can become dependent on it for different reasons, for instance, to be creative, calm, or sociable. The more you microdose, the more you crave it. Some people prefer mixing psilocybin with other substances such as cannabis, LSD, and other mushrooms to elicit a different effect. Because of this, such individuals are more likely to become psychologically addicted to mushrooms. The severity of this addiction will depend on how often you use the mushroom and how much you consume. Family intervention and even professional help might be needed if you develop an unhealthy addiction to mushrooms.

As with any habit-forming substance, you may experience magic mushroom withdrawal symptoms. Since you are accustomed to the altered mental state it puts you in, you may have an arduous time living in the real world. Additionally, you may suffer from memory loss, which might get worse the more psilocybin you take; irritability, hallucinations, and fatigue are associated effects. During withdrawal, you may experience confusion and have a lot of problems determining what's real and what's not.

## IS PSILOCYBIN LEGAL?

Despite all the research about the vast therapeutic potential psilocybin has, it is still classified as a Schedule 1 drug. Magic mushrooms were classified as Schedule 1 drugs under the United Nations 1971 convention on psychotropic substances. This classification includes any drugs that have no recognized medical uses and have a high potential for abuse. This includes compounds such as DMT, LSD, Ibogaine, and more. However,

thanks to recent advancements in science, these substances show great potential for medical use; for instance, psilocybin and LSD are used to treat depression and anxiety.

Psilocybin mushrooms are not regulated by the UN, meaning there is no international law that governs the use of these substances. Any prosecution is decided in reference to local law; for instance, its use is prohibited under the Psychotropic Substances Act in the US. This means that it is illegal to buy or sell psilocybin in America. As a microdoser, this means that you risk jail time if found buying, selling, or in possession of this substance. That said, the criminalization of magic mushrooms has come under a lot of criticism from the general public and researchers alike who see its therapeutic potential to help people overcome drug addiction, and mental illnesses such as PTSD.

As such, there's a lot of ambiguity about the legal status of magic mushrooms. This is in response to this public criticism and the need for more research; a lot of states are considering decriminalizing or have already decriminalized psilocybin. Additionally, it is psilocybin and psilocin that are deemed illegal; most laws don't mention anything about magic mushrooms. The legal status of psilocybe spore is even more ambiguous. Since the spores don't contain any psilocybin or psilocin traces, it is not illegal to sell, buy, or possess them in many states. However, you may be prosecuted under broader laws that prohibit the sale of items that can be used to manufacture drugs.

A few jurisdictions such as Georgia or Idaho have outlawed the sale of psilocybe spores. Growing psilocybin mushrooms is considered as drug manufacturing, and thus it's illegal to cultivate them in most places. However, some countries have ruled that cultivating psilocybin mushrooms doesn't qualify as manufacturing a controlled substance; thus, it is not illegal to grow them. In line with this change in law, voters in Oregon passed an initiative that makes magic mushrooms legal for mental health treatment under supervision as of February 2021.



## GROWING PSILOCYBIN MUSHROOMS



**N**ow that you know a few psilocybin mushroom species, you have an idea of the types of places these mushrooms thrive. Before you proceed, remember that the cultivation of these mushrooms is still prohibited in some jurisdictions. We don't promote or approve the use of illegal substances where they are prohibited. However, at the rate things are going, they are likely to be legalized everywhere soon. In the meantime, there's no harm in learning how to grow these psilocybes because, technically, you wouldn't be breaking the law.

So, I bet you have a lot of questions about this whole process, such as how long do these mushrooms take to grow? Where can I get mushroom spores? And more. These are terrific questions; let's dive right in.

## HOW DO MAGIC MUSHROOMS GROW?



Before looking at how you can get psilocybin mushrooms spores, let's take a look at how these mushrooms grow. Mushrooms are very versatile and can grow in all kinds of environments. Indoors, you can grow them in a spare room, in the basement, or even in your vegetable garden. Before you can start growing these trip-inducing mushrooms, you need to know and understand a mushroom's growing cycle. This knowledge will give you important insight that will be valuable when you start growing your own mushrooms.

### *The life cycle of magic mushrooms*

- Inoculation—this is when the spores are introduced onto a growth medium such as growth substrate, dung, mulch, decaying wood, and so on. If the conditions are good, the spores will germinate.
- Spore germination—during this stage, fine fungal filaments known as hyphae start growing from the spores. These hyphae then find compatible mates to create fertile mycelium. Mycelium

looks like a network of cells quite similar to a plant's root system, but in this case, they are the plant, and mushrooms are the fruits.

- Mycelium expansion—as the mycelium develops, it breaks down the organic matter in its surroundings and absorbs the nutrients. In this growth stage, the mycelium expands at an exponential rate, and since it can encounter a lot of competitors or predators in the wild, it produces an array of protective enzymes and compounds to protect itself. You can think of mycelium as the immune system of the mushroom.
- Hyphal knotting and primordia formation—as the mycelium continues to grow, it condenses into hyphal knots, which then develop into primordia, also called baby mushrooms or pinheads. This fruit body development is caused by different enzymes optimizing the mycelium constituents.
- Fruit body selection—from the thousands of primordia that will form, the growing mushroom body will select the most promising ones and develop them into mature fruit bodies. These mature fruit bodies are the mushrooms you see growing. They then consume as many nutrients as they can, growing until they mature fully and produce spores.
- Spore generation and release—spore production results from the sexual reproductive phase of the mushrooms, after which the spores are released into the environment for propagation. In the wild, those that land in favorable environments can germinate and begin the cycle anew.

At this point, you could be wondering how long this whole process takes. It takes about a week after inoculation for the spores to germinate. After this, it can take anywhere from 2 to 4 weeks for the mycelium to colonize the area, after which the fruiting phase starts. This can take about two weeks, so in total, the whole process takes anywhere from one month to 6 weeks.

## OBTAINING PSILOCYBIN MUSHROOMS SPORES

Magic mushrooms are fungi that grow naturally in many different regions of the world. So, for instance, if you live on the West Coast, you might be lucky enough to find some in the wild. However, foraging for mushrooms in the wild can be tricky. You are more likely to pick a poisonous mushroom than find a psilocybe. So it's best to leave that to people with a lot more experience identifying mushrooms, like actual mycologists. The most dependable way to stay safe is to grow your own

psilocybes at home or get them from a reputable source. However, since they are illegal, the latter isn't much of an option.

You need spores to grow mushrooms, and since *Psilocybe cubensis* are the most common species, any spores you find will probably be cubes. However, you can find the spores of any mushroom species you want. The safest and easiest way to obtain psilocybin mushrooms is to purchase them online since the sale of mushroom spores is not illegal. There are several different options when purchasing mushrooms online. These include:

- A growing kit—This is a box with a substrate inoculated with psilocybin mushrooms mycelium. With a growing kit, all you have to do is expose the mycelium to some soil, water, and sunlight, and the mushrooms will start growing. This is the easiest way to grow mushrooms; however, since mushrooms are still illegal, it can be very difficult to ship these growing kits to your house. Even if you bring them in, they might be seized by customs authorities.

Magic mushroom growing kits are premade mushroom kits that offer a simple, low-stakes way to try out mushroom cultivation. Purists argue that it's a lot easier to get your own supplies than purchase a growing kit, plus the harvests are better; however, others insist that the convenience of the kits makes it worth it. There are many benefits to using growing kits, such as not having to buy all the supplies you would need to grow mushrooms at home; they are convenient and easy to use; and they allow beginners to try out mushroom growing before diving in. That said, there's some risk that comes with using these kits. For instance, you don't know what you are actually getting until they grow. This can mean that some unscrupulous individuals can trick beginners.

Thanks to the recent surge in the use of magic mushrooms, there are a lot of growing kits available. Different kits come with different gear, but they all include a container where you can grow your mushrooms. This can be a box, bag, or jar filled with substrate. The substrate is the material that provides nutrition for the mushrooms to grow. It can be anything from soil to mulch or different types of grain. Aside from containers and substrates, you will need spores; however, due to legal reasons, a lot of the growing kits made in the US don't contain spores; you need to purchase the spores from another source.

Most companies that sell kits that don't have spores often have links to trusted spore vendors. European growing kits, however, include spores or even a pre-colonized substrate, which is a substrate that has spores added to it. However, you have to pay higher prices for them, and there are additional risks involved. It's best to purchase spores from reputable

vendors in the same country you are in and avoid getting spores from individuals on online forums or marketplaces.



- A spore print—unlike a growing kit, a spore print is the easiest and safest way to get magic mushroom spores online and get them shipped anywhere in the world. A spore print is an impression made by cutting off the mushroom cap and placing it gill side down onto some foil, and covering it with glass. After a day, you remove the glass and the cap, leaving thousands of spores behind. These spores can be used later by scraping them into some distilled water and putting them into a syringe. You can then inject this spore mixture into a substrate and grow your mushrooms. You can store spore prints for up to two years while refrigerated, and you can use them to inoculate over seven different substrates. Using a spore print is also the cheapest option since getting one costs \$30.00 or less, and it can produce over 400 wet grams or 30 dried grams. Inoculating seven substrates can produce over 200 grams of dried mushrooms. Additionally, since you have the actual mushroom cap, you can make your own spore prints creating an infinite supply.



- Spore syringes and vials—lastly, you can get a spore syringe or vial filled with the spore water mixture. This is a great option if the mushroom species you are looking for cannot be obtained from spore prints. For instance, the Penis Envy strain of *P. cubensis* is highly sought after; however, it is nearly impossible to find a spore print of the mushroom since only about 5 percent of the mushrooms actually produce spores. So the only way to get this species online is in a syringe or vial.



Buying anything online can be tricky. There's so much that can go wrong; however, with quasi-legal products such as psilocybin, things can be even trickier. First, even though the spores are not illegal, how they are packaged might be. Second, how can you be sure what you are getting is what you ordered? As you can see, buying magic spores online is a lot riskier than your average online shopping trip. Here are useful pointers to keep in mind when buying psilocybin spores online.

Only shop from verified websites authorized to retail psilocybin products. Given the legal status of psilocybin, legitimate vendors will be well versed in the law and will only sell you products that will not get you in trouble. For instance, they might sell growing kits without the spores or spore prints instead of dried mushrooms. Look for sites that sell their products for research, educational, or identification purposes only. Given how popular psychedelic culture is becoming, there are large online forums dedicated to it, such as on Reddit or Shroomery. So before purchasing any product online, ask around or consider posting it in a thread on either forum and see if anyone is familiar with the vendor. Additionally, you can read online reviews about the vendors you want to purchase from or reach out to them.

## CULTIVATING PSILOCYBIN MUSHROOMS

As an aspiring fungus-culturist, you probably want to grow your mushrooms from scratch. If you don't know much about growing mushrooms at home, it's best you start with a mushroom growing kit. However, starting off from scratch gives you more control over your mushroom harvest and you can protect it from contamination. This cultivation guide is based on a revolutionary method for growing mushrooms known as "psilocybe fanaticus" that was developed by Robert McPherson.

His method adds vermiculite to a grain-based substrate rather than using grain alone. Vermiculite is a hydrous laminate mineral gravel used in gardening. It mimics natural conditions that give the mycelium more space to grow. This method is a lot more labor-intensive for a lower yield, but it is also very simple, cheap, and reliable, making it ideal for beginners. It also employs readily available materials, some of which you might already have.

You will need

- A spore syringe about 10 to 12 cc
- Grain flour (we will use organic brown rice flour)
- Vermiculite, medium to fine
- Distilled water
- Large cooking pot with a lid
- About 12 shoulderless jars with lids
- A measuring cup
- Hammer and a nail
- A mixing bowl
- Strainer

- Heavy-duty tin foil
- A small towel or about 10 paper towels
- Micropore tape
- A drill and a quarter inch drill bit
- Perlite
- A clear plastic box about 50 to 100 liters
- A mist spray bottle
- Rubbing alcohol
- Sterilized gloves, preferably latex
- A surgical mask
- An air sanitizer
- Butane or propane torch lighter
- Surface disinfectant

You want to ensure you get a good spore syringe as it will contain the spores you are to sow in your substrate. Many growers have complained of getting misidentified strains, having issues with contamination, and even some, unfortunately, getting nothing but water in the syringe. So as you purchase your spores, ensure you do thorough research and get them from a reputable supplier. After growing your own mushrooms, you can fill your very own syringes or make spore prints to use later.

You will want to decide which species and strain you want to grow. As your psilocybe cultivating skills grow, you will learn how to grow or even splice different strains creating even more strains. Most suppliers offer a variety of strains to choose from; however, a lot of the strains you will come across will be of the *P. cubensis* species. The B+ and golden teacher strains are quite popular with beginners. The Penis Envy strain is reportedly more forgiving of sub-optimal and changing growth conditions, meaning it is less likely to die if anything goes wrong.

The basic psilocybe fanaticus (PF) tek method is quite simple:

1. Prepare your brown rice flour substrate, vermiculite, and water, then put this mixture into the jars after sterilizing them.
2. Inoculate the substrate and wait for the mycelium to grow.
3. After about a month or so, transfer your colonized substrates or cakes into a fruiting chamber and watch your mushrooms grow.

Sounds simple, right? That's because it is. However, when growing mushrooms, you want to ensure you maintain very good hygiene even before you start growing your mushrooms. You want to thoroughly sterilize the environment before planting to avoid contamination. You can tell your crop was contaminated if, instead of mycelium, mold grows on

the colonized substrate. So you should always thoroughly sterilize: think level 5 biohazard laboratory type of sterilization. While that might be considered as going a bit overboard, you need to do everything you can to ensure the cultivating environment is as sterile as possible. Use an air sanitizer, thoroughly clean your equipment and surfaces, take a shower before and after, brush your teeth, wear clean clothes, and so on. You get the gist. If you don't properly sterilize your environment, opportunistic bacteria or mold could grow in your substrate. Sterilizing minimizes this risk.

### **Step 1: Preparation**

The first step is preparing everything you will need to grow your mushrooms, so ensure you wear gloves and a mask. For the jars, you need to punch about 4 holes in the lids. After properly sterilizing the hammer and nail, punch the holes evenly through the lids. For each jar, mix about  $\frac{2}{3}$  cup of vermiculite and a  $\frac{1}{4}$  cup of water first, and drain any excess water with the disinfected strainer into a bowl. Add  $\frac{1}{4}$  cup of the rice flour per half-pint jar to the bowl and pour the mixture into the vermiculite.

Next, fill the jars to about half an inch off the rim and ensure you don't pack it too tightly. Sterilize the top half with rubbing alcohol and top of your jars with dry vermiculite to insulate the substrate from contamination. Tightly close the lids and cover the jars with the tin foil. Ensure you secure the edges of the foil around the jars' edges to prevent any moisture from getting into the jar through the holes. Next, place a small towel or the paper toles into a large cooking pot and place the jars on top, making sure they don't touch the pot's base.

Add water up to about halfway up the jars' sides and bring it to a slow boil, ensuring the jars stay upright. After the water boils, place the lid onto the pot and leave it to steam for about 75 to 90 minutes. Keep an eye on the pot, so if the water runs dry, you can replenish it with more hot water. Similarly, you could use a pressure cooker to sterilize your jars. Set it for 60 minutes at 15 PSI. After you are done steaming, remove the lid from the pot and allow the jars to cool, preferably overnight. They need to be at room temp before the next step; however, don't remove the foil.

### **Step 2: Inoculation**

After preparing your substrate cakes, the next step is inoculating them, but first, you need to sanitize and prep the syringe. With the torch

lighter, heat the syringe needle until it glows red, then let it cool. Once cool, wipe it down with some rubbing alcohol making sure you don't touch it with your hands. Now that the needle is sterilized, pull back the plunger a bit and shake the syringe contents to evenly distribute the magic mushroom spores. If your syringe and needle require assembly before use, be very careful not to contaminate your spore sample.

Take the foil cover from one of the jars and inject the syringe as far as it will go into one of the holes. Lean the needle towards the side of the jar and inject about 1/4 cc of the spore solution into the substrate. You may need to use less if you are using a 10 cc syringe for 12 jars. Repeat the process for each hole, making sure you wipe down the needle with alcohol each time. Once you are done, cover the holes with micropore tape and set the jar aside but don't cover it with the foil. Sterilize the needle with the lighter and alcohol and repeat the inoculation process for the remaining jars.

### **Step 3: Colonization**

After inoculating your cakes, the next step is to wait for the spores to sprout. Place the jars somewhere clean where they will be undisturbed and keep them away from direct sunlight. After about a week or so, white, fuzzy, or fluffy-looking mycelium will appear, spreading from the inoculation site. You want to watch out for any signs of contamination, such as strange colors or smells. If you find any contaminated containers, dispose of them immediately; however, do this outside in a secure bag and don't unscrew the lids.

If you are unsure of whether the jar is contaminated, always err on the side of caution; even if a cake is healthily colonized, some contaminants are deadly to humans, so ensure you are wearing your gloves and mask. After 3 to 4 weeks, after the mycelium starts growing, you should have about 6 or more successfully colonized jars. Let them sit for another week so the mycelium can grow stronger.

### **Step 4: Preparing the growth chamber**

As your mycelium grows stronger, you'll need to make the fruiting chamber. Take the plastic container and drill 1/4 inch holes about 2 inches apart all over the sides, base and lid. Here's a helpful tip: to prevent your container from cracking, drill the holes from the inside out into a block of wood. Once you are done, set it over 4 stable objects preferably arranged in the corners, so you don't block airflow underneath. Make sure you cover the surface under the box to protect it from moisture leaks.

This fruiting chamber is far from the best design; however, it's easy to build and works, making it great for beginners. After you get the hang of this mushroom cultivation thing, you can try other alternatives. After preparing your container, place the perlite into the strainer and soak it in some cold water. Let it drain completely until there is no more water dripping from it, then spread it on the base of the container. Repeat this process until you have a perlite layer 4 to 5 inches thick.

### **Step 5: Fruiting**

After about a month, your mycelium cakes are ready to be transplanted. Open your jars and remove the dry vermiculite layer taking care not to damage the cakes in the process. Upend the jars onto a disinfected surface to release the cakes intact. Rinse the cakes one at a time to remove any loose vermiculite, then fill your cooking pot or another large container with lukewarm water and dunk the cakes. You can keep them submerged with another pot or a similar heavy object. Leave the cakes submerged for about a day to allow them to rehydrate.

Remove the rehydrated cakes from the water and place them on a disinfected surface. Next, fill your mixing bowl with dry vermiculite and roll your cakes one at a time in the vermiculite to fully coat them in the stuff. This vermiculite layer will help retain the moisture. Now cut a tin foil square big enough for your cakes to sit on without touching the perlite and ensure you space them evenly in the growth chamber. Gently place your rolled cakes onto the foil, mist the chamber with a spray bottle, and fan it with the lid before closing it.

Spray the chamber about 4 times a day to maintain the humidity levels making sure you don't soak the cakes. After misting, fan the chamber with the lid about 4 to 6 times to increase airflow through it. Some growers use fluorescent lights set on a twelve-hour cycle; however, even indirect or ambient lighting is enough for these mushrooms. Mycelium only requires a bit of light to determine where there's open airflow and where to sprout pinheads.

### **Step 6: Harvesting**

The mycelium will start fruiting after about a month to six weeks after inoculation. The mushrooms will appear as tiny white bumps before sprouting into primordia or pins. It will take anywhere between 5 to 12 days for them to get ready for harvesting. When ready, cut your mushrooms as close as you can to the cake. Don't wait for them to fully mature as they'll lose their potency. The best time to harvest your crop is

right before the veil breaks. At this stage, they will have light conical-shaped caps and covered gills.

## ADAPTATIONS AND ALTERNATIVES

As more fungi-culturists get into the craft, numerous modifications are being made to this cultivation method to increase the yield and even make it easier. Through experimentation, they have learned that certain strains tend to produce better with different substrates and growing conditions. A great example of an alternative to this method is the monotub method. It involves spawning your spores in bulk on manure, coir, which is coconut fiber extract, straw, or other fleshy, nutritious substrates. Like these intrepid growers, you may eventually start experimenting with other cultivation methods, but the PF tek method is a great place to start your magic mushroom growing journey.

## REUSING SUBSTRATE

After flushing the cakes for the first time, they can be reused to grow more mushrooms up to three times. Just dry them out for a couple of days, then repeat step 5 to rehydrate them; however, don't roll them in vermiculite again; just put them back into the growth chamber and mist and fan just like the first time. After the third use, you will start seeing contaminants grow; this is a clear sign that they are no longer viable. So drench the cakes in water and dispose of them in a sealed bag.



## MAGIC MUSHROOM STORAGE



Congratulations, you have grown your first magic mushrooms. However, before you start microdosing, the next step is to properly store your psilocybin mushrooms. When fresh, these trippy mushrooms don't have a long shelf life, so if you want to microdose them or just save them for later, you have to think about proper storage. The most effective way to store magic mushrooms is by drying them. If dried properly, your mushrooms should stay potent for 2 to 3 years as long as they are in a cool, dark, and dry place. If you stored them in the freezer, they could last even longer, possibly indefinitely.

The drying process also impacts the aesthetics and structural quality of the mushrooms. The most low-tech way to dry your newly harvested

mushrooms is to leave them out on a sheet of foil or paper for a few days, preferably in front of a fan. This method manages to remove most of the moisture, but they won't get cracker-dry. This means they won't snap like crackers when you bend them because they still have some moisture. Since mushrooms are 90 percent water, this method can sufficiently remove all the moisture meaning any moisture left during the drying process can cause them to decompose. This will then result in a host of other problems, as microbials can start growing on your shroom stash, contaminating it. Air drying can also significantly diminish their potency, depending on how long you leave them out. Therefore, the best choice is to use a dehydrator; however, they tend to be pricey.

If you can't find a dehydrator, you can use a desiccant to dry the mushrooms completely. First, let them air dry for about 2 days; you can use a fan to help speed things up. Afterward, place a layer of a desiccant such as silica gel cat litter or anhydrous calcium chloride into the base of an airtight container. Next, place a wire rack or something similar on top of the desiccant; this is where you will place your mushrooms and prevent them from touching the desiccant. Make sure you spread out your mushrooms as much as you can before sealing the container and letting the desiccant do its thing. After a few days, you can open the container to see if they have dried completely, and then transfer them into Ziploc baggies and put them in the freezer.

You may be thinking that if hot air is all you need to dry your mushrooms, you could dry them in an oven, however, this is an ill-advised idea. To properly dry mushrooms, you need flowing air; the still air inside an oven will bake the mushrooms instead of drying them.

## HOW TO DRY MUSHROOMS USING A DEHYDRATOR

Whether you are utilizing a dehydrator or not, the first step is thoroughly cleaning the bottom of the stems of your mushrooms close to where they were cut from the cake. This is because there might be traces of the substrate there. After your mushrooms are clean, the next step will depend on whether you have a vertical or horizontal dehydrator.

1. For the horizontal model, place the largest mushroom on the top ring tray and arrange the others in descending order placing the smallest one on the bottom ring tray. You want to set the temperature of your dehydrator to anywhere between 110 and 120 degrees Fahrenheit and dry your mushrooms for about 2 hours. After the two hours, check the trays to see if the mushrooms are completely dry (cracker-dry).

2. For a vertical dehydrator, you want to place the largest mushrooms closest to the fan and the smallest ones closer to the door. Set the temperature to 158 degrees Fahrenheit and dry the mushrooms for about two hours. After the timer goes off, check to see if the mushrooms are cracker-dry. If not, put them back and add more time on the timer until they dry completely.

A lot of growers with dehydrators note that horizontal models are more effective, as they have a lot more surface area, so the mushrooms dry faster. Since the whole point is to dry them as fast as you can, they are the best option. However, whatever dehydrator you opt to use is up to you.

## HOW LONG DO MUSHROOMS TAKE TO DRY COMPLETELY?

Several factors can influence how long mushrooms will take to dry completely. These include factors such as the dehydration method used and the size of your mushrooms. Using a dehydrator is the fastest way to dry your mushroom stash; however, exact times vary depending on the dehydrator you are using. Ultimately, don't focus too much on putting a time limit on the drying process; instead, you should focus on other factors to help you figure out if your mushrooms are properly dried.

The most reliable identifier is waiting until your mushrooms are cracker-dry. There should be no moisture left in a perfectly dried mushroom. Additionally, you want to maintain as much of the mushrooms' aesthetic and structure as possible. *P. cubensis* mushrooms have a golden colored cap and a whitish stem. As you dry them, make sure you maintain these features as much as you can. After successfully drying your mushrooms, you want to store them in a vacuum-sealed bag and keep them in a dark, cool place (think freezer corner or somewhere in the back of your pantry).

## HOW TO STORE FRESH MUSHROOMS

Unlike dry mushrooms, fresh mushrooms are a lot more sensitive. Despite being fungi, they are prone to mold, contamination, and oxidation as time passes. Ingesting rotten mushrooms can make a safe experience very dangerous, so you want to ensure you properly store them as fast as you can. The proper storage procedure for fresh mushrooms starts immediately after picking them.

Before harvesting your mushrooms, ensure you wear disposable gloves to reduce any chance of cross-contamination. If you can't find any sterile gloves, properly wash and sterilize your hands before handling the mushrooms. After cutting the mushroom at the base, use a brush to remove any debris that might be clinging onto the stem. Next, place them in a paper bag or lightly woven basket as you finish collecting the other mushrooms. If they are still covered in a substantial amount of dirt, gently clean them under some cold water and set them on a clean kitchen towel to air dry for about half an hour. You can pat them dry if there's still some residual water left on them before putting them in the fridge.

If you can't dry your mushrooms, you can store them in the fridge for about 5 to 10 days, after which they will need to be dried to prevent decay. Mushroom species with lower water content, such as truffles, will have an even shorter shelf life. If you have stored your mushrooms in the fridge, it's best to check for mold after 3 to 5 days. As you are storing your wet mushrooms, remember they are quite fragile. The longer they stay fresh or wet, the faster they will rot. Before placing them in the fridge, ensure they are completely dry because any moisture will cause rotting. Be very gentle as you do this because overhandling mushrooms can damage them, reducing their potency and quality. Never freeze fresh mushrooms or truffles, as this will damage their internal structure and greatly diminish their potency.

Magic mushrooms are consumed in a variety of forms, such as teas or edibles; here's how to store mushrooms in these various forms.

- Storing magic mushroom tea—Mushroom tea is one of the easiest ways to consume these funky mushrooms. After brewing your trippy tea, you can store it in the fridge in a sealed pitcher like you would iced tea, and it will keep for up to a week. For dried mushroom tea, keep it in an airtight container in a dark cupboard. You can even throw in some food grade silica to help keep the moisture out.
- Storing mushroom chocolates—this is another great tasty way to enjoy your trippy mushrooms. Chocolate mushrooms are dried mushrooms coated in chocolate, which helps mask the mushrooms' taste, thus making them more palatable. As delicious as these mushroom treats are, they have an awfully short shelf life because the melting, infusing, and cooling of the chocolate reduces the mushrooms' shelf life. After making your magic mushroom chocolates, store them in an airtight container and place them in the fridge. Line the container with unbleached parchment to prevent the chocolate from sticking onto the container. Carefully place each choco-shroom in a truffle or muffin paper to keep them

from sticking to each other and also make it easier to remove them. Keeping the choco-mushrooms cold slows oxidation and helps prevent the chocolate from melting easily. Stored this way, they can keep up to a month.

- Storing mushroom capsules—mushrooms have a very distinct and overpowering taste, which makes ingesting them a somewhat arduous task. Luckily, capsules offer an excellent and tasteless alternative to ingesting mushroom edibles. They have also made microdosing a lot easier since only a small amount of dried shroom can fit into the capsule. Storing capsules is also easy; just store them as you would any nutritional supplement by placing them in an opaque, airtight container and throw in a food-grade silica packet for good measure. Make sure to place this container in a cool, dark place. When stored properly, these mushroom capsules can last up to a year; you may want to frequently check on them to ensure they are not showing signs of contamination.
- Storing shroom pills—if you grind dried mushrooms into a fine powder, you can compress the powder into pill or tablet form. You can store these shroom pills like you would any nutritional supplement; in an opaque bottle, placed in a cool, dark place. You can place a food-grade silica packet to keep the moisture out. The shelf-life of these shroom pills isn't well known since this method isn't very common, nor is it a sensible way to consume magic mushrooms while microdosing. However, it's suspected that they can last for several months.

## HARVESTING YOUR MUSHROOM SPORES



After growing and harvesting your first crop, you basically have the raw material for an endless supply of magic mushrooms. However, you need to extract the spores from your mushrooms to make your own spore syringes for next time. As a fungus-culturist, making spore syringes is as self-sufficient as you can get. First, you will need a fully grown mushroom, one that has been allowed to grow until its cap opens and the edges turn upwards. There should be an accumulation of dark purplish deposits around the base of the cap. These are the spores. To collect them, you need to make a spore print. Cut the cap off with a flame sterilized scalpel and place it gill down onto a sheet of paper or foil. Disinfect a sheet of glass or a jar and use it to cover the cap, and leave it for a day or so. Store the spore print in a cool, dark place in an airtight plastic bag.

There are various benefits to making a spore print, such as having your own mushroom spore stash to keep the strains you enjoy in your personal library. Since you are growing your own mushrooms, they can develop different characteristics depending on the substrate and conditions of growth. This means that, with your homegrown mushrooms, you can enjoy magic mushrooms with a variety of characteristics instead of basic phenotypic clones. Additionally, spore stamps can be done on the fly, meaning that if you find an interesting mushroom species in the wild or at a friend's place, you can investigate it and even replicate it at your own leisure.

## MAKING SPORE SYRINGES

Simply put, to create your spore syringe, scrape some of the spore print into a sterile glass filled with distilled water, then fill your sterilized syringe with the liquid spore solutions. Empty it back into the glass a couple of times to help evenly distribute the spores, then refill the syringe one final time and place it in an airtight plastic bag. Leave the syringe bag at room temperature for a few days so the spores can rehydrate, then chill the syringe until you are ready to use it. The solutions should be good for about 2 months.

Here's a more comprehensive breakdown of the process

You will need

- A spore print
  - Empty syringes that are still sealed
  - Clean water
  - A small conical flask or a glass jar
  - Torch flame lighter
  - Surgical scalpel
  - Tweezers
  - Tinfoil
  - Pressure cooker
1. As always, hygiene is everything, so ensure that everything is sterilized properly before use. Wear gloves and a face mask to help prevent any cross-contamination.
  2. Start by sterilizing the water. Fill the flask or jar halfway through with clean water, seal the top with tin foil, place it in a pressure cooker, and follow the same procedure you did when sterilizing the substrate jars. However, instead of sterilizing it for an hour, you will only leave it in for half the time. Leave the water to cool overnight because if it's too hot, it could kill the spores.
  3. Next, sterilize your tools. Take the scalpel and tweezers and hold them over a flame until they are red hot. Be careful not to burn your fingers.
  4. Remove the foil from the flask or jar, and using the tweezers, remove the spore print from its casing. If you can, only expose the part you are using, then carefully scrape some spores into the sterile water.
  5. Unwrap the syringes and quickly put the nozzle into the spore solution, sucking up and expelling the solution a couple of times to mix the spores in the water evenly. Once properly mixed, fill the syringe with the spore mixture and fill all the syringes you have.

6. You can't use the spore syringe right away because the spores need some time to rehydrate. This means you may have to wait anywhere between 1 to 3 days while the syringes are at room temperature for the best results. As you wait for them to properly rehydrate, place them in clean, sealable bags to prevent cross-contamination.
7. Now your spore syringe is ready for use. If you don't plan on using it immediately, it should be stored in the fridge at 2 to 4 degrees and should last up to 6 months.



## GET STARTED MICRODOSING



So now that you have gotten your hands on some magic mushrooms, what's next? Microdosing, right? It's pretty tempting to just take one of those sprouting pinheads along with your morning cereal or coffee. However, this will lead to an inconsistent microdosing experience. Consider the following facts:

- Even though fresh and dry mushrooms are considered to have equal potency, this is just an approximation. Dry mushrooms can have more or less than 10 percent of their fresh weight. This means that if you were to take about 3 grams of fresh

mushrooms, you would get about 0.03 grams of dried mushrooms; however, this could vary depending on the mushroom's water content and other environmental factors.

- Different parts of the mushroom contain different psilocybin levels. Take, for instance, the *P. cubensis* species. The whole mushroom can contain anywhere between 0.37 to 1.3 percent psilocybin. Of this, 0.44 to 1.35 percent can be found in the cap, with the stem containing about 0.05 to 1.27 percent. This means that for this species, the caps are a bit more potent than the stems. Additionally, there are parts of the stem that don't contain any psilocybin. For the best results, it's best to grind the whole mushroom into a powder.
- Aside from the varying psilocybin levels between the different parts of the mushroom, different species have different psilocybin levels as well. The most potent species are the *P. azurescens*, *P. cubensis*, and *P. cyanescens*. This makes calibrating the exact dosages you should take a bit tricky because you need to know exactly which mushroom species you are ingesting. Even then, there's a lot of other factors at play that affect the mushroom's potency.
- On top of all that, psilocybin levels change during the different developmental stages in a mushroom's life cycle. For instance, miniature pinheads that don't grow big are a lot more potent than those that grow into larger mushrooms.
- If you are microdosing on dried truffles, you should know they contain less psilocybin than dried mushrooms.

Magic mushroom trips are fairly unique to every microdoser despite a lot of users having similar experiences. After hearing the various experiences of others, you are ready to try microdosing. However, before you go taking magic mushrooms, there is some stuff you should know about microdosing and how to do it safely. Of the many things you need to understand is that no two trips are similar and that psilocybin is not an escape from reality, even though it includes altered mental states. Magic mushrooms help you see new and different perspectives that can help you live a more fulfilling life.

When taken in moderate to high doses, magic mushrooms can induce mystical and somewhat spiritual psychedelic trips that can also be challenging and full of grief and shame. For most microdosers, a lot of their meaningful trips elicit feelings of there being more to life. For instance, the little things that they tend to stress over or even dread every day are quite petty and not as dire as they thought they are. They can see that there's more to life than their insecurities, fears, or even anxieties.

This allows them to see that they have a purpose and that they are part of something bigger. After such a trip, you come back feeling refreshed and motivated, with a greater appreciation for life.

No matter what your intention is going into your trip, sometimes the mushroom experience revolves around some deep-rooted feelings you might have or a part of you you didn't know existed. When microdosing, the key is to be open, surrendering your control to the experiences the mushrooms might bring, whether mental or physical. Mushrooms can make your body feel differently; sometimes, this feeling might be similar to nausea, fatigue, or a sense of heaviness in the limbs. You may sometimes get visual distractions such as things swaying, things growing and moving around, bursting with color or sound, or seeing things breathe. A beginner should have a trip sitter to watch them through their trip and keep them from harming themselves or others. We will delve more into how to have a positive psychedelic experience later on. First, let's prepare the mushrooms.

## MATERIALS YOU'LL NEED

**A milligram scale:** Out of everything on this list, this is the most important thing you will need as you will need it to measure out your mushroom microdoses. It would be best if you had a scale that can read at least 2 decimal places to the right to measure out quantities as small as 0.1 grams. If you can get one with 3 decimal places, that's even better. Jewelry scales are a great choice because they are very sensitive and portable. Some allow you to subtract the weight of the container, meaning you can get a very accurate measure of how much magic mushroom powder or dried mushrooms you are diving up. Always ensure that you measure out your mushrooms before ingesting them this way; you know how much you consumed.

**A good spice or coffee grinder:** You don't need a lot of things to make ingredients for your mushroom tea, lemon tek, or even your shroom chocolates; you just need dried mushrooms. However, if you can grind your shroom into powdered form, it gives you versatility. You will want to get a grinder with a removable bowl, which allows you to remove the mushroom powder and clean it out easily.

**A strainer:** When making mushroom tea or lemon tek, you'll need a strainer to get all the little bits of mushroom out after they have soaked. You could drink the tea or lemon shots with the mushroom bits in them, but given how bitter some mushrooms can taste, you don't want to do that. If you don't have a strainer, you can use an empty tea bag. They

make really cute gifts if packaged well and are a really easy way to incorporate microdosing into your routine.

**Capsules:** If you are thinking of taking your magic mushroom powder orally, capsules are a great way to go. This way, you avoid that strong, sometimes very bitter taste mushrooms have. What's great about capsules is you don't have to worry about measuring out your mushrooms every time you want to microdose because they fit a full microdose. Go for vegetarian or gelatin hard-shelled capsules because they are tasteless and pretty tamper-proof. They also allow for higher psilocybin absorption because they have higher bioavailability. Size 00 capsules are the best because they are just big enough to fit one microdose.

**A capsule filling machine:** A capsule filling machine can save you a lot of time when making your shroom capsules. It also makes the whole process less messy and more efficient.

**A reliable source of psilocybin mushrooms:** Another important thing you will need are your magic mushrooms: after all, they are the stars of the show. Ideally, you want to grow your own mushrooms; this way, you can be assured of their potency and quality. However, if you can't yet, you can source them from a reputable dealer or forage for them in the wild. Remember to be extra careful when foraging for mushrooms in the wild; there are some poisonous ones out there.

Most of the things you will require will depend on how you want to consume your mushrooms. For instance, if you are making shroom tea, you don't need a capsule-making machine.

## HOW TO PREPARE YOUR MICRODOSES

Microdosing is fairly straightforward; all you need to do is prepare your microdoses and consume them appropriately. You also need to follow a month-long protocol to ensure you experience lasting benefits. Prepping your psilocybin microdoses is a simple process; however, it does involve more steps than microdosing with LSD. As stated before, a lot of factors can affect your high, making the trickiest part estimating the potency of a particular mushroom and calculating how much you need to take. As we discussed earlier, each mushroom species has different psilocybin levels, and their potency is also affected depending on whether they are fresh or dry. Similarly, different parts of the mushroom contain different levels of the psychoactive compounds.

Given all these variables, the best way to get the most from your shroom is to dry them, then grind them into a very fine powder before deciding how you will ingest them. Powdering your dried mushrooms homogenizes the psilocybin content variance between the different parts of

the mushrooms. The easiest way to grind your mushrooms is using a spice or coffee grinder. Unlike the dehydrator, it's best to get a separate grinder for your mushrooms as it is nearly impossible to get the fine mushroom particles out of the grinder. This way, you don't accidentally dose yourself or anyone you are living with. Imagine unwittingly tripping because of your morning coffee.

Here's an important tip: It takes about 2 minutes to grind the mushrooms into a fine powder; however, you shouldn't go opening the mill immediately. Let the grinder sit for about half an hour so the fine mushroom particles can settle. Opening it up immediately would release them into the air in a wave of psychedelic dust. Even in this fine form, it can still cause you to trip.

## MEASURING YOUR MICRODOSES

Properly dosing your magic mushrooms is another critical part of having a safe experience. That's why you need a good, sensitive milligram scale. No matter how you want to ingest your mushrooms, the first thing you want to determine is if you want to start with a sub-perceptual microdose or a low tripping dose. With the microdose, the experience is subtle, and it's a great way to start your shrooming journey if you have never taken them before or if you are nervous about altering your consciousness intensely on the first try. The microdose will make you feel different, more in tune with your feelings, open-minded, creative, and even productive, but it could also make you lose focus and get emotional and nauseous.

A tripping low dose, on the other hand, about 2 grams or less, is a great place to begin if you want to have a somewhat deeper experience. This low dose is also referred to as the "museum dose" because of its ability to shift your perception enough, while still letting you maintain a decent grip on reality. While this sounds great, it can be very overwhelming for beginners because doses between 1 to 2 grams can induce a powerful experience with distinct sensory changes. This can be quite uncomfortable and unsettling, especially for your first time.

Here are some shroom doses:

Microdose: 0.1 to 0.5 grams

Low dose: 0.1 to 2 grams

Moderate dose: 2 to 3.5 grams

High dose: 3.5 to 5 grams or higher.

Please note that these dosages are for dried *P. cubensis* mushrooms. If you are taking fresh mushrooms, multiply the dosage by 10 to account for the mushroom's water content. If you are using other species, remember that potency levels vary between species, so safe dosages may be lower for more potent strains and higher for mushrooms with low psilocybin levels. However, if you are unsure about what to do, try to get more information about the mushrooms you have before ingesting them. A safe bet is to start low and get a feel of the mushroom and then adjust your dosage accordingly.

There's this misconception that you should take a moderate dose of 3.5 grams for your first psychedelic journey; however, this can induce a very intense experience that you are not prepared for. There are too many variables involved to risk it. We recommend starting slowly to get acquainted with magic mushrooms and how they feel and learn how to navigate the trip before taking higher doses. This way, you are well prepared for more intense experiences.

## FILLING THE MUSHROOM CAPSULES

Now that you have an idea about the dosages, you need to decide what dose your microdoses will be. The ideal dose will depend on several factors such as your sensitivity, the mushroom's potency, and even what you plan to do the rest of the day after microdosing. Remember, a microdose is 5 to 10 percent of a full dose that is  $1/20$  of the macro dose. Suppose you have a full dose of mushrooms, about 3.5 grams or  $1/8$  of an ounce; the microdose would be about 0.35 grams. However, if the batch is particularly potent, you can reduce it to about 0.2 grams. Alternatively, you can make even smaller dose capsules and double up for a stronger effect. This way, you don't end up with a bunch of capsules that are too strong for you.

After determining your dosages, you need to figure out how many capsules you are making. This is pretty easy: if you have a capsule machine, the number of capsules you can make will depend on how many capsules it can hold in one go. For instance, your capsule machine could hold 20 capsules. So to determine how much magic mushroom powder you need, just multiply your dosage and the number of capsules; that is  $0.2 \times 20 = 4.0$  grams. To account for any mushroom dust that might stick to the surfaces, you can add about 0.2 grams. Before using your scale, ensure you reset it to 0 to eliminate any buildups that might throw it off.

Next, weigh out about 4.2 grams of dried mushrooms and grind them into a fine powder. Then, load the capsule machine with your capsules according to the directions of its manufacturer making sure to put the

longer pieces of the capsule in the machine and the shorter ones in a bowl. Place a plate or a piece of foil under the machine to catch any powder that might fall as you fill the capsules. This way, you can easily recover it. Now slowly fill the capsules with your mushroom powder and use the plastic card that comes with the machine to gently push the powder into the capsules. You want to make sure that all capsules are filled; however, there will be some space left, so don't work to fill up some capsules because others will be left empty. Try to fill them as evenly as possible.

Once all your capsules are full, cap about 5 of them and weigh them individually to verify the weight of the magic mushrooms inside. You can use about 3 to 5 capsules once you are sure their weights are similar; you can cap the other capsules. If your capsules have very different weights, open them up and check if they are properly filled out. You should also note that size 00 capsules weigh about 0.1 grams and can hold up to 0.5 grams. If you are targeting a smaller dose than that, then getting your mushrooms into the capsule should be easy. However, if you want a 0.5-gram dosage, make sure you compress the powder inside until you get the desired amount.

That's it! Now you have your shroom capsules. While making them requires a bit of work, they make microdosing a lot easier, since you don't have to keep measuring out your dose each time you want to microdose. Some microdosers feel capsules are too restrictive; they prefer having their mushrooms in powder form. This way, they can adjust the dosage as they want. This is a great way to find your sweet spot. However, there are a lot of drawbacks to using powdered mushrooms, such as it is hard to travel with them on you, a scale is required for accurate measurement, using them can be messy, and they could degrade faster and lose their potency due to oxygen exposure.

After making your capsules, make sure that you clearly label them. It's very common for some to accidentally take a magic shroom pill thinking it's a supplement. Given that they are still illegal, you want to create a code that will help you easily identify them; that way they don't get consumed by accident. Remember to put them in an opaque, airtight container that looks boring or a child-safe pill bottle.

## HOW TO MAKE MUSHROOM TEA



Another way you can enjoy your magic mushroom is by ingesting them as tea. Mushroom tea is easy to make and a favorite for many microdosers for two reasons. The first one is it offers a pleasant way of ingesting dried mushrooms aside from chewing them and the tea-making process can become a ritual that can help you focus your busy mind and get into a relaxed mood. Preparing something to drink is a ritual because it requires your attention and serves as a grounding experience that allows you to be present for the duration of your drink.

Microdosers love mushroom tea because of its increased strength and shorter time it takes to make. It is also a lot easier on your taste buds and digestive system. However, it's a bit intense, so you might have to reduce your dosage when consuming your mushrooms as tea. Mushroom tea also helps reduce nausea that can be caused by ingesting dried or fresh mushrooms. That's because, in essence, you are cooking your mushrooms into a homemade psilocybin extract. The steeping process breaks down raw materials in the mushroom, such as chitin, releasing the psilocybin. This results in a psychedelic brew that is easier to stomach.

Since, in essence, you are drinking a psilocybin extract, mushroom tea can cause the trip to come on faster and be a bit more intense than you are used to; however, it doesn't last as long as eating dried mushrooms or mushroom powder. This increase in trip intensity is also due to the fact that, to make the tea, you have to grind the mushrooms into a powdered form, which is absorbed a lot faster in the gut. So if you were to put this

fine powder into an aqueous solution such as hot water, this increases its absorbability.

There are several mushroom tea recipes online, and you can create your own as you go. However, this is a simple recipe that offers great results with no loss of potency.

1. Start by weighing out your shroom dosage.
2. If you are using dried mushrooms, grind them into a powder.
3. Chop up some whole ginger into a cup, add in the mushroom powder, and pour some hot water.
4. Let the tea steep for about fifteen minutes before straining it into another cup. You can choose to leave the mushroom bits in if they don't bother you.
5. Add some honey to taste and enjoy your psychedelic tea.

Besides adding ginger or honey to the mushroom tea, you can add other tea fusions such as chamomile, hibiscus, licorice root, lemon, orange, and other citrus fruits to add an extra kick. Besides making the trip come on faster and possibly stronger, the herbs, teas, and fruits you mix into the tea can also have an effect on the experience. Anytime you take mushroom tea, it changes your subjective experience; for instance, if you added lavender into your shroom mix, it would induce a calming sensation, whereas Catuaba bark would cause an arousal effect. Psilocybin has the ability to change one's feeling state to where feelings are an act of perception. With teas, you are extra perceptive about how the herbal teas are affecting your high.

## HOW TO LEMON TEK



Just like mushroom tea, this method of consuming magic mushrooms can shorten the trip's duration, reduce nausea, and make the whole experience more intense. Lemon tekking refers to letting your mushroom dose sit in lemon or lime juice for about 15 minutes before consuming the lemon shot. The citric acid in the lemon juice essentially breaks down the mushrooms concentrating the psilocybin. A lemon tek concentrates your trip, making it shorter and stronger. Given the intense nature of the trip, this method is not recommended for first-timers; however, if you have some experience with microdosing, you can take these trippy lemon shots.

Lemon tekking is a great way to make a small amount of magic mushrooms last longer since it basically concentrates your psilocybin in a shot. It also decreases nausea and body load, shortening, and fundamentally changing the experience you have. This method works by mimicking the stomach's acidic conditions breaking down the psilocybin into psilocin, the compound responsible for the signature entheogenic effects of magic mushrooms. However, everything we know about lemon tekking is purely theoretical, meaning there's no scientific proof as to how the process works. That said, it is believed that, since psilocybin's dephosphorylation is increased in acidic conditions releasing psilocin, it's fairly reasonable to hypothesize that this is what happens when you soak magic mushrooms in lemon or lime juice.

It's also believed that tekking renders psilocybin, psilocin, and other psychoactive compounds more bioavailable, so when you ingest them, you start feeling the effects immediately. Most of the psilocybin in the

mushrooms is held in the cell walls, which are made out of chitin. Chitin, however, is very hard to digest that's why it takes a while for the high to kick in if you ingest whole mushrooms. However, when you soak them in lemon juice, the citric acid starts breaking it down even before the mushrooms enter your digestive system. This way, when they hit your stomach, it doesn't have to compensate; it's readily digestible. Since most people don't have the proper enzymes such as chitinase to help break down chitin, lemon tekking helps reduce the body load.

Additionally, the vitamin C in the lemon juice is an antioxidant that prevents the oxidation of psilocin, so it doesn't lose its potency. Lemon tekking works best with lemons or limes because their pH is very similar to your stomach's, which is about 2 to 2.6. Other citrus fruits can work too; however, they must have the same acidic level; anything less, and they won't work as well. Oranges and pineapples seem like good alternatives; however, their pH ranges between 3.2 to 4.3, which is way beyond a person's stomach's threshold.

A lemon tek trip is generally shorter than other ingestion methods. Since you are basically taking a psilocybin shot, the come up, come down, and overall trip are shortened. Where eating mushrooms takes about half an hour to about 90 minutes to kick in, the come up for a lemon tek kicks in anywhere from 10 to 15 minutes depending on whether you ate any food. The total duration of your trip will depend on your dose, but they generally last anywhere from 4 to 6 hours, where a normal shroom trip would last 6 to 8 hours.

Lemon tekking is very straightforward: all you need is your mushroom dose, a grinder if you are using dried mushrooms, about 2 lemons per dose, a glass, and a cheesecloth or coffee filter to catch mushroom bits. Since this technique strengthens your experience, it's best to start with a lower dose, about half your intended dose.

1. Grind the mushrooms into a fine powder using the grinder and place them in the glass.
2. Juice the lemons or limes and pour the juice into the glass, making sure to cover the mushroom powder completely.
3. Let the solution sit for anywhere between 15 to 20 minutes, making sure to stir it occasionally.
4. After about 20 minutes, you can strain the mushroom bits out of your citrus shot with the cheesecloth or coffee filter. Make sure you completely squeeze out all the juice, then discard the mushroom bits in a safe place. This is optional; you could just as well take the shot as is. Remember, tekking increases the strength of the experience, so be extra mindful of the kind of mushrooms you are tekking and consider getting a trip sitter. Given the

different potencies these mushrooms have, it's best to start by taking a dose before tekking to get a feel of its strength then tek it.

As great as lemon tekking is, it does cause acid reflux. So to help ease this and make it taste better, you can turn your tek into lemon tea. Simply take your lemons shot and add it to a cup of your favorite tea; we are quite partial to ginger tea, but green tea works just as well. The tea should be hot, not boiling. If you like, add a sweetener, such as honey, and you are good to go.

## MICRODOSING PROTOCOLS

Having learned how to grow mushrooms, prepare them, and have your first shroom experience, you may be wondering how often you should microdose. Since microdosing is still in its infancy, there's no standard way of doing it. However, given the trippy nature of these mushrooms, taking them every day is not recommended. The frequency and schedule of when you should microdose is totally up to you. We found that it's best to listen to your body and trust your instinct to find whatever feels right. However, if you aren't in tune with your inner self as much or you wish to follow an already existing method, here are two of the most popular protocols. Think of them as suggestions from experienced microdosers and other microdosing experts.

**James Fadiman's Protocol:** James Fadiman is an American psychologist who is known for his work in psychedelic research. During his research, he developed a microdosing protocol to help microdosers know when and how to microdose. According to him, you should microdose in the morning once every three days or about twice a week.

**Paul Stamets' Protocol:** this world-renowned mycologist is best known for his passion for magic mushrooms. He came up with a micro-dosing regimen that focuses on cognitive health and memory loss prevention. This protocol involves microdosing five days in a row then taking a two-day break. His regimen also recommends taking magic mushrooms with lion's mane and niacin because of their synergistic effects. According to Stamets, they can enhance your brain's health. Please note that niacin might cause a temporary flushing sensation that's somewhat uncomfortable. But don't worry, it will pass and it isn't harmful.

## COMBINING MUSHROOM MICRODOSING WITH OTHER METHODS

A lot of microdosing enthusiasts believe that combining magic mushrooms with other substances or methods can enhance the experience. Take, for instance, lemon tekking; even though the trip is shorter, mixing mushrooms and lemon juice increases the strength and intensity of the trip. Engaging in these activities while microdosing can have synergistic effects, thus enhancing psilocybin's beneficial results. Here are a few examples

**Yoga**—engaging in relaxing exercises such as yoga is a great way to enhance your experience. Microdosing can help you develop more body awareness by developing proprioception, which is your brain's ability to consciously sense your body's internal processes such as your pulse or breath. Microdosing can also help you relax, increasing your muscle flexibility.

**Talk therapy**—microdosing can increase your emotional openness, helping you share and deal with difficult thoughts and feelings. This increased emotional openness can help you process these emotions in a healthy way. Microdosing before or during a therapy session can help you be more present and aware of your mental state; that way, you can easily talk through whatever might be bothering you.

**Meditation**—meditation is a great relaxation technique. According to fMRI scans, psilocybin, psilocin, and meditation have the same effect on the brain. And since they induce the same effects on the brain, it comes as no surprise that many microdosers engage in meditation, even combining it with mindfulness to take an even deeper trip into their minds.

**Supplements**—psilocybin works directly on the brain's neurotransmitters by attaching itself to existing receptors, causing a cascade of state shifting neurotransmitters to be released. To help support this process in a sustainable way many microdosers add different supplements such as vitamins, lion's mane, and antioxidants to their microdosing regime to set off the effects of microdosing.

## HOW TO HAVE A POSITIVE PSYCHEDELIC JOURNEY

A lot of factors can affect your psychedelic journey, such as your mental state. The first step to having a positive trip is deciding what you want from your journey. Despite psilocybin's ability to expand your consciousness and heal your mind, you may be interested in trying magic mushrooms for their sheer entertainment value; and that's okay. So do you

want to try mushrooms for your depression or anxiety; maybe you want to silence the never-ending mental chatter in your head? Or you just want to improve your focus, creativity, or productivity. Whatever the case, be totally honest with yourself when setting the intentions for your experience.

After putting some thought into your reason for microdosing, you are ready to embark on your psychedelic journey. The next step is preparing your environment, also referred to as your set and setting. Your environment plays a big role in determining what kind of experience you will have. Microdosing can cause you to be emotionally sensitive and more open or permeable to emotional energies than you would normally be. When microdosing, the emotions or thoughts that were hidden deep inside of you can bubble up unexpectedly, and this can, in turn, affect the kind of trip you will have.

If you had dinner plans to meet your girlfriend's or boyfriend's parents, you might be very nervous. So even though you might want to microdose to help you relax, your underlying anxiety might turn things around or even make them worse. However, if instead you are going hiking with your friends, that might be a better time to microdose because you are not nervous. Basically, set and setting involves taking stock of your physical environment and your emotional state. You want to avoid microdosing when you are feeling anxious, emotionally raw and volatile, stressed, or in difficult situations.

However, if you are feeling numb or stuck, a microdose might be what you need to get you out of that rut. That being said, there are those rare situations where microdosing might ease your anxiety, such as for those who suffer from social anxiety. In the end, only you can know what's best for you, but a general rule of thumb is to only microdose in situations or at times when you are likely to have a good time. This way, as you get more familiar with your trips and how your body reacts, you can try microdosing in more challenging situations, such as when you need to process difficult emotions.

Tripping 101: to help you create the right ambiance, have your go to tripping playlist ready. Nothing's more of a buzzkill than having to figure out how to use tech when you are tripping.

During your trip, you might feel uncomfortable and perceive something scary but remember your mind is powerful, and it is present during the unpleasant stuff, so try not to label any bad experiences you have. Be smart, cautious, and respectful of your mental abilities and how psilocybin affects you.



# MICRODOSING CONCERNS



Microdosing has its pros and cons, and it can be a life-changing experience. Given how strong psilocybin's psychedelic trip can be as a budding microdoser, you may want to know if there are any concerns you should worry about. Taking magic mushrooms can cause you to have powerful experiences. However, taking reasonable moderate doses of these mushrooms has been proven to be completely safe. As a testament to psilocybin's safety, the Global Drug Survey ranked it the safest recreational drug to take. This means that psilocybin has been found to have minimal harmful effects. That said, there haven't been any long-term studies on the effects of frequently microdosing over an extended period. However, according to most anecdotal reports, there seems to be very little if any harmful effects. Despite psilocybin being completely safe, ingesting whole mushrooms, whether dried or fresh, can cause a few problems. Let's take a look at a few:

## NAUSEA

As we discussed earlier, most of the psilocybin is found in the cell walls made of chitin. This means that to release the psilocybin, you have to digest or break down the chitin. However, chitin is largely indigestible, meaning you would have a hard time breaking it down. This is what causes the feelings of nausea a lot of microdosers report having after ingesting mushrooms. On top of that, studies show that chitin triggers inflammatory and immune responses in some people, contributing to this nauseous feeling.

Aside from that, there's a high chance of ingesting harmful pathogens and other heat sensitive toxins when you ingest fresh, especially wild, magic mushrooms. It makes sense to conclude that these entities could trigger your body's natural detoxification mechanisms, such as feelings of nausea and vomiting, to help expel them. However, it's important to note that other factors could contribute to these feelings of nausea. These include your hydration level, physical condition, dosage, metabolism, the entourage effect, and more. To truly answer this question, more research is required.

## A TENUOUS LEGAL STATUS

Microdosing has tons of benefits; however, the riskiest thing about it is its potentially illegal nature. Psilocybin is categorized as a Schedule 1 drug, meaning it's illegal to possess, buy, or sell it. However, magic mushrooms fall in an interesting grey area because, even though the Vienna

convention outlawed the manufacture of synthetic psychotropics, psilocybin occurs naturally in these mushrooms. Secondly, they outlawed psilocybin, not the mushrooms that produce the substance. However, these loopholes in international law are left up for interpretation by local authorities meaning harsh punishments are imposed for the possession and sale of psilocybin mushrooms. Nonetheless, thanks to the push for more research on the potential benefits of psilocybin on treating depression, more and more countries are rethinking their stand on the matter, with some legalizing psilocybin for research.

## BAD TRIPS

The most common downside to tripping on mushrooms is having a bad trip. A bad trip could involve unpleasant physical sensations, nausea, chills, vomiting, or even headaches. However, it's the psychological effects that are the cincher in all that. A bad trip can cause paranoia, worsen anxiety, induce extreme terror, and even psychosis. This psychological distress is a really common side effect of using psilocybin. It can range from being a bad trip to suffering both visual and auditory hallucinations days after taking the mushrooms.

Normally psilocybin's mind-altering effects last anywhere between 6 to 8 hours, but this depends on your dosage, set and setting, additional preparation methods, and your metabolism. The first 3 hours are the most intense, but this might seem to last longer because of the shroom's ability to alter time perception. The way you feel when tripping can be affected by a lot of factors, such as your mental state. Suppressed or unresolved feelings can hijack your experience leading to a bad trip.

If you have underlying psychological conditions such as mood disorders, extreme anxiety, or even bipolar disorder, your condition might be worsened by microdosing mushrooms. This is because of how psilocybin works on the brain. The interaction of psilocin and serotonin receptors can alter the brain's chemistry and worsen these conditions. When you take magic mushrooms, you are opening yourself up to the possibility of suffering severe anxiety, panic attacks, dizziness, and even symptoms quite similar to schizophrenia. However, when administered under professional supervision, magic mushrooms can be beneficial for these conditions.

## FAKE MUSHROOMS



The biggest drawback to microdosing magic mushrooms is the fact that they are illegal. This makes getting magic mushrooms quite hard. This increase in demand with a small supply leads to a lot of uncertainty when it comes to getting mushrooms; you never know what you are getting. Some mushrooms touted as magic mushrooms have turned out to be nothing more than regular mushrooms laced with other hallucinogens such as LSD. This means that buying magic mushrooms comes with the inherent risk of getting fake mushrooms, so you end up ingesting a range of other drugs, which could cause an overdose. If you are worried about the authenticity of the mushrooms you have, it's best not to take them.

Another risk that comes with the increased hype microdosing magic mushrooms is getting is there is a high chance of ingesting poisonous mushrooms in search of that psychedelic high. Since most of these mushrooms grow in the wild, while foraging for them, you could pick a poisonous species and ingest them, getting mushroom poisoning. Symptoms include muscle weakness, confusion, gastrointestinal issues, hallucinations, and delirium. If you suspect you are suffering from mushroom poisoning, it's best to seek medical attention immediately.

## MACRODOSING OR OVERDOSING



There's a common misconception that you cannot overdose on magic mushrooms. However, this is not the case. It's quite common for people to take a higher dosage of magic mushrooms than they anticipated. This accidental macrodosing can occur because of errors when measuring their mushrooms and forgetting to properly calibrate the scale, using a more potent batch of mushrooms that they are used to, or not knowing the dosage they should be taking. For the most part, accidentally macrodosing turns out okay; however, on the rare chance it happens to you, stay as relaxed and as calm as you can and remember it will wear off. Try and ground yourself and take stock of your activities for the day. If you can't cancel them, find a way to ground yourself whenever you feel yourself losing grip. If you get to a point where it's too much, call a friend and see if they can take you home or somewhere safe where you can ride this trip out.

## YOU COULD GET HALLUCINOGEN-INDUCED PERSISTING PERCEPTION DISORDER (HPPD)

This is a rare but serious potential side effect of taking psilocybin mushrooms. This disorder can cause you to have flashbacks of experiences you had when tripping days, months, or even years ago, even if you no

longer take the psychedelic mushrooms. This can cause severe distress or even anxiety because of the frightening hallucinations. However, other risk factors are involved in developing this disorder, such as underlying mental health issues and regular use of a hallucinogen over a long period. Unfortunately, there is no treatment for this condition, but more research is needed to fully understand what triggers it.

## MUSHROOMS CAN IMPAIR YOUR JUDGMENT

Magic mushrooms can induce both auditory and visual hallucinations along with altering reality and the perception of time. While this altered state is great for soul searching and reflections, it can potentially lead you to take unnecessary risks or unknowingly put yourself in danger. mushrooms can impair your judgment, lower your inhibitions, cause confusion, drowsiness, and loss of motor coordination. This means even simple tasks such as driving can be potentially dangerous both for you and those around you.

## TAKING MUSHROOMS PERMANENTLY CHANGES YOUR BRAIN

Given how psilocin interacts with the brain, there's a possibility that it can change your brain's chemical makeup. Depending on the frequency and dosage, you can cause permanent brain changes. There are even studies that show that taking mushrooms can permanently alter your brain; however, the jury is still out on whether this is for the worse.

Other potential risks include developing cross-tolerance for similar substances such as LSD and CBD. This means that you are more likely to take a higher dose in an effort to feel its full effect leading to an overdose. Additionally, even though magic mushrooms are not chemically addictive, taking them often can have negative outcomes. This means that even though psilocybin is not addictive, you could get addicted to the experiences and trips it induces. A clear sign of addiction is someone spending time obsessing over mushrooms and missing work to indulge in their habit, and even misusing mushrooms by consuming them outside of the recommended regimens.

As a microdoser or someone thinking of trying it, you may have a few concerns about microdosing magic mushrooms; after all, there are a few minor risks that come with indulging in these psychedelic mushrooms. For instance, they can be found growing in the wild, meaning there is no way to truly ensure they are free from microbes. You could think growing

your own mushrooms could ensure you have a safe product, but there's one tiny hiccup with that plan. Psilocybin is illegal, meaning you have to jump through a lot of hoops to get spores to cultivate your own crop. However, despite these and other hurdles, microdosing can change your whole life through the psychedelic experiences it produces. Knowing the benefits and drawbacks of the whole process will help you make a more informed choice about microdosing.

## FINAL WORDS

**M**agic mushrooms are powerful psychedelics. They can help you see things, such as the world, yourself, and others in a new light. They produce experiences that can alter your perceptions, giving you a clearer, more accepting and forgiving view of the world. Microdosing magic mushrooms can also increase your creativity, focus, concentration, as well as giving you other benefits.

In this book, we looked at everything you need to know about microdosing magic mushrooms. The first chapter focused on all things microdosing from defining what it is to highlighting some of the reasons people microdose and why you should microdose on magic mushrooms. Chapter 2 tried to give you a more concrete idea of what tripping on mushroom microdoses feels like, even though everyone has a unique experience. We also looked at some of the benefits of microdosing mushrooms and how long the trip lasts. The third chapter took a surgical look at psilocybin and psilocin, the compounds responsible for the trippy nature of these mushrooms. By understanding how these compounds interact with your brain, you get a better idea of what's going on in your brain when you consume magic mushrooms. We also looked at different species of psilocybin mushrooms and the risk of taking magic mushrooms.

Having understood how magic mushrooms work, the next steps were learning how to cultivate, dry, and properly store your trippy mushrooms. Lastly, we looked at how to microdose; everything from the materials you would need to how to prepare your microdoses, and even highlights different ways of taking your magic mushrooms. Mushroom tea anyone? Given how powerful these mushrooms can be, there are some risks involved in actively using them. That's what the last chapter is all about. By understanding the risks involved, you can gauge for yourself whether microdosing is for you. Not to worry though, using psilocybin is safe; however, other factors come into play when microdosing mushrooms.

People microdose for various reasons however only you know why you want to partake in these mushrooms. That said, the information in this book is meant to help you microdose safely by learning everything you can about the process and the mushrooms. Microdosing can change your life; however, taking magic mushrooms isn't as easy as ingesting some wild mushrooms. A lot of preparation goes into it. With the right guidance and prep, you can have your own powerful life-changing experiences.

Happy shrooming!