Spread Your Spores
SLF@riseup.net

Radical Mycology
An SLF Primer
NOTES

RADICAL MYCOLOGY
AN SLF PRIMER

1st Ed. 2009
DISCLAIMER

This publication is intended for entertainment and information purposes only. It is not meant to encourage nor condone illegal activity. The SLF holds no affiliation to the Earth Liberation Front nor the Animal Liberation Front as the name "Spore Liberation Front" refers to the term frequently used to describe the ejection of a spore from its host mushroom (i.e. "spore liberation").

Anti-copyright. This zine is a spore to be spread across the globe. Please cut, paste, copy, and distribute this information in whatever form you see fit. In fact, we rely on such grass roots distribution and hope that such a tradition continues. SPREAD THE SPORES.

Submissions

We wish to mention here that the SLF primer is an ever changing work in progress. As new information and revelations come out we plan to put out new editions. Further, we strongly desire to hear from other radical mycologists around the globe, expanding our mycelial network and (hopefully) getting contributions in the process. We encourage all submissions, mycoexperiment reports, guerilla mushrooming stories, etc. We can be contacted via email:

SLF@RISEUP.NET

SPAWN A ANARCHY
Liberate Spores
Recommended Reading

Identification
- All the Rain Promises and More – David Arora
- Mushrooms Demystified – David Arora

Cooking
- Mushroom – Johnny Acton & Nick Sandler
- The Chanterelle book – Oli Persson

Cultivation
- Mycelium Running – Paul Stamets
- The Mushroom Cultivator – Paul Stamets
- Growing Gourmet & Medicinal Mushrooms - Paul Stamets

Dying & Papermaking
- The Rainbow Beneath My Feet - Arleen R. Bessette
- Mushrooms for Dyes, Paper, Pigments, Myco Stix– Miriam Rice
- International Mushroom Dye Institute (IMDI) - http://www.sonic.net/dbeebee/IMDI.htm

Sacred Mushrooms
- Magic Mushrooms Around the World - Jochen Gartz
- Psilocybin Mushroom Handbook – L.G. Nicholas & Kerry Ogame
- Food Of The Gods – Terence McKenna

Other
- Medicinal Mushrooms – Chris Hobbs
- Tinder Polypore ember carrying technique photo tutorial at http://www.wildwoodsurvival.com/survival/fire/tinder/tinderfungus/polypore/index.html

And So It Goes

A Call To Sporulate .................................................. 1
The Lifecycle & Its Implications ............................. 3
Types Of Mushrooms ............................................ 5
Wild Identification ................................................... 6
  Notes / Tips
  Sulfur Tuft (Naematoloma/Hypholoma fasciculare)
  Honey Mushroom (Armillaria mellea)
  Oyster Mushroom (Pleurotus ostreatus)
  Turkey Tails (Trametes versicolor)
  Chanterelle (Cantharellus cibarius)
  Red-Belted Polypore (Fomitopsis pinicola)
  Morels (Morchella esculenta & elata)
  Shrimp Mushroom (Russula xerampelina)
  Potent Psilocybe (Psilocybe cyanescens)
  Oregon Reishi (Ganoderma oregonense)

A Note On Medicinals .............................................. 20
Cooking & Preservation ....................................... 21
Mycorestoration .................................................... 23
Cultivation Methods ............................................. 24
Ethnomycology ...................................................... 27
  Mushroom Dyes ................................................ 28
  Mushroom Paper ............................................. 29
  The Sacred Mushrooms ..................................... 31

We Are The Spore Liberation Front .......................... 34

Glossary & Recommended Reading .......................... 35
A Call To Sporulate:

All life is interconnected.

How we choose to spend the few years we’re allotted on Earth—from the interactions we have with each other to the ways we choose to heal or steal from the planet—is a serious decision with measurable consequences. Our actions as individuals determine not just how our day will unfold but how future generations will be able to live. We determine what quality of life our children will be able to play in, what quality of air they will have to breathe, what fauna and flora they will gaze at in wonder.

If an individual takes the time to reflect upon this fact and proceeds to actually do something about it, their perspectives on life and living from then on will be different. Unable to continue ignoring the impact of one’s own actions, cognizant individuals can choose to apply a socio-political evaluation to everything they participate in. How one chooses to feed themselves, to fulfill themselves, to survive and guide their own life, is a choice that, from a critical standpoint, should not to be taken lightly.

When we choose to affect the world around us directly, we begin to live our lives as if they actually mattered. We begin to realize the potential every person has for making this world a better place to live and thrive in. We begin to grow.

In many ways, one’s conscious relationship with mushrooms can directly foster this desire for change. The complex life cycle of mushrooms provides profound and novel examples of networking between different species and environs not exhibited by most other life forms. These actions snow a sentient concern for not just the mushroom involved but for the surrounding environment as well. We believe that as one learns more about these habits, the ways in which they can influence our own inner behavior, one quickly begins to perceive the interconnectedness of life surrounding them all the more clearly.

Mushrooms spend the majority of their lives as a vast underground web-like structure referred to as mycelium. This mycelial network has been called the earth’s central nervous system—its natural internet—due to the way in which information and resources (such as water and minerals) are exchanged and communicated through it in a methodic, rapid, and sentient manner. Adaptive, creative, and aware, the mycelial network interacts with its host environment in a symbiotic manner with the health of the greater system in mind.

We are the Spore Liberation Front.

We are the hidden network beneath the duff, fusing filaments of thought to create fruitbodies of change. We are the filters of a diseased and radiated culture and the decomposers of its classist, spiritually stifled, and oppressive society.

We are the destroyers of already dead ideologies that attempt to destroy the right to life of present and future generations through a torrent of chemicals, wars, and fear spewing propaganda. And we are the creators of soil most fertile from which relentless synergies form, habits of mutual aid take over, and respect for all that lives persists and is never forgotten.

We reject the unforgivable levels of waste, abuse, and destruction taken against ourselves and this planet we all share. And we demand the ability to live our lives as we desire and to expand the limits of our consciousness should we so choose.

Our mycelium is our affinity groups and open collectives working synergistically toward the common goal of absolute freedom. The soil we grow through is the mass of underpaid workers and classless insurgeants influenced and transformed through knowledge of our triumphs. Our spores are our dreams and aspirations. Thus, we broaden our mycelial network toward a day when every layer of soil is free to nourish whichever spores may seek their cradle.

We liberate spores. The spores that eject from our consciousness by the millions daily. Those that tell us to quit our jobs, learn a trade, seed a garden, to fall in love, to care. The spores that alone may not germinate beyond a few steps but, when combined with those like them and surrounded by soil awaiting a new force of life, have the potential to transform whole ecosystems.

These spores are ever-present in the soil. Microscopic, hidden, and unseen, yet everywhere. They may lie in wait for years until the right conditions call on them to arise. And even when the soil seems to be decaying, the ever-present mycelial networks remain, growing and using to produce a continual mass, embedded in the soil, enriching the soil, purifying the soil, rebuilding it into something stronger, healthier, and much more powerful.

We, the Spore Liberation Front, reconnect with the Earth directly. We step into our hands in the dirt, unspreading the devastation left by others. We work our hyphae to the limits, producing fairy rings on the outer edges of society to thrust our fists through the asphalt and concrete. We extend our mycelial networks across the globe, sharing resources and tactics, visions and actions. We take our lives back and stop at nothing to create the balance we need to survive. This process takes time. But, when living only to destroy and recreate worlds in an endless cycle of growth and change, time is all we have.
Toward An Introduction

We, the members of the Spore Liberation Front, see the lifecycle of mushrooms, and especially this mycelial stage, as a metaphor for the way humans can choose to interact in and with Gaia, our one world. As an endless cycle of growth, decay, networking, sharing, and purification, this cycle is, for us, a process both beautiful and enchanting, complex and intriguing: more than the life giving destruction its job as decomposer appears to be.

Just as mushrooms use their abilities to share nutrients with plants and break down toxic chemicals to keep their microcosms cleaner and healthier, so can we as humans live committed to the health of our planet through our natural role as stewards and caretakers of the land. Like the mushrooms—and their mycelium—that form from individual spores to flourish and co-exist with nature in harmony, so too can we choose to spend our existence interconnected with each other and the planet to grow and live better, fuller lives. Mushrooms teach us how to care for each other, how to see life as a perpetual cycle of interdependence, a fragile balance between give and take where not one species dominates but all rely on each other. And they help us reconnect with and accept an often denied and feared aspect of the wheel of life, that of death and decay.

Through hunting for and growing our own mushrooms, we learn the value of subsistence and living off the land, of subverting capitalist economic structures, of making our own medicines, and of connecting with the natural world. Using mushrooms for remediation purposes, we are able to reclaim land that has been stolen and destroyed by others that came before us. We are able to put our hands in the dirt directly, making a difference by healing the damages done so that all life may continue on stronger, healthier, and freer. For all these reasons and more we wrote this zine in the hope of sharing our love for fungi to you the reader; to spread our spores.

Our lives and our world can be so much better if only we begin looking to the greater fungi. Just how crucial mushrooms will be in saving our planet (and ourselves) from the brink of collapse will only be told in time. For now, we urge you the readers, our symbiotic allies and radical mycopilots at large, to put the information we present in these pages to work. For we truly believe that the coming revolution in human existence will be (in ways both literal and metaphoric) a mycelial one.

SLF
Spring, 2009
Cascadia, Earth
THE LIFECYCLE

Fungi reproduce not by seed or egg but by a simpler—typically one-celled—spore. These spores are formed during the reproductive stage of the fungus’s life cycle on its "fruiting body". This is the stage we are most familiar with, when a mushroom appears above ground. These spores float on their parent mushroom and, when mature, get ejected from the mushroom by tiny puffs of gas at a speed of 25,000 Gs. In some species, like Morels, this act can not only be seen as a tiny brown puff of smoke but can also be heard as what has been described as a thousand tiny aerosol cans going off. A single mushroom may release billions of spores a day (some species up to 5 trillion a year!), yet only a tiny percentage of these will land in an environment suitable for germination and growth.

The spores that do get lucky, though, soon burst to life growing through their new home as a microscopic filament of successively arranged cells called a hyphae. Having only half the genetic information it needs to reproduce, these hyphae grow and branch in all directions seeking a genetic "mate." Once found, the two physically combine and grow as one, branching through their substrate in search of nutrients and water.

The web-like structure thus formed is referred to as mycelium. As it grows during this below-ground stage, the entire surface of the mycelium encounters organic matter that it then breaks down and consumes through the use of special enzymes it excretes. The mycelial network builds up food reserves until a time when certain environmental conditions arise, triggering the production of a mushroom above ground. The mushroom thus formed will have structures on its underside called gills, teeth, or pores, upon which develop spores that quickly grow to maturity and are discharged into the world as the cycle begins to repeat itself.

* - See the glossary in the back for definitions.

Author Terence McKenna theorizes that psilocybin mushrooms may have been the catalyst for our evolution as a species. He posits that their effects on the pineal gland may have helped in our development of spoken language and cognition capabilities and aided in our steps out of the jungles and into the grass plains of Africa.

As interesting as these points may be, studies of the sacraments of ancient cultures show that use of the psychedelics has not been restricted to indigenous tribes. In ancient cultures around the globe, one finds that the use of psychedelics among humans for religious communion, divination, and healing has been accepted and revered for millennia. From the ancient mushroom stones and motifs found in Mayan temples, to the soma of the Hindu Vedas texts, to the ritual drink of the Eleusinian Mysteries—an ancient Greek religious ceremony attended by Aristotle, Plato, and Sophocles—the use of psychedelic mushrooms stand out with their influential role in the formation of human cultures. The extent to which their use shaped the thinking of ancient philosophers and artists can only be guessed at but the knowledge of their power by such people cannot be denied.

Even Christianity seems to have been based in part on the use of sacred fungi. In particular, the use of the Amanita Muscaria, or Fly Agaric mushroom, may very well have played some role in the myth and symbol formation of ancient Christianity. The excellent, if a bit dry, documentary The Pharmacal Inquisition (available for free at gnosticmedia.com and video.google.com) breaks down this relationship in depth.

In most cases, psychedelic mushrooms are not harmful to humans. When psilocybin is ingested, it is broken down in the liver into psilocin, which is responsible for the hallucinogenic effects. A common misconception is that the effects experienced by psilocybin/silocin are due to a poisonous nature of the compound, yet the National Institute for Occupational Safety and Health, a branch of the Center for Disease Control (CDC), rates psilocybin less toxic than aspirin. Psilocybin is non-addictive, non-habit forming, and rapidly develops a high tolerance in the user over the short term, decreasing the likelihood of a shroom "binge." There has never been a reported death from ingestion of wild magic mushrooms in the US. They were outlawed in the 60s (when they first became popular by young radicals) in a blatant attempt by the government to put a halt on the psychedelic revolution started a few years prior by LSD.

The use of psilocybin mushrooms being used to aid in the curing of psychological disorders has been well documented. Several studies have been made linking the use of psychedelics to the treatment of both obsessive-compulsive disorders (OCD) and OCD-related clinical depression for up to months at a time. This natural medicine is often found to be more effective and less toxic than the prescription pharmaceuticals typically prescribed for these disorders.

Despite all this history and indisputable research, western society still clings to a fear of the sacred fungi. A fear that stems from oppressive moral ideologies based on antiquated religious dogma that denounce these sacred entheogens as "sinful" and wrong. Indeed, just as free-thinking women during the middle ages were killed not because of their "witchcraft" practices (that they mostly did not engage in) but for the threat they posed to the oppressive Christian patriarchy, so too have "magic mushrooms" been condemned not for their addictive or dangerous potentials (which do not exist) but for the threat they present to the dominant culture. The sacred fungi are a natural, non-toxic substance that, when consumed, almost force the user to connect with the natural world and feel the interconnectedness of life. Such an emotion naturally calls one to question the effects our destructive lifestyles and greedy leaders inflict upon this frail planet. Such thinking concerns those in power. For the soon-to-be-enlightened may very well resist their tyranny or, at the least, stop supporting a society founded on fear, war, and pillage.

Further, by allowing one to transcend the temporal limits of ego and society to seek the spirit and god(ess) within ourselves, these mushrooms threaten the organized...
The Sacred Mushrooms

Here is a working list of all known psilocybin containing mushrooms found in the 3 west coast states. Though, it is illegal to pick them. Happy Hunting!

N. California
Psilocybe azurescens
Psilocybe cyanescens
Psilocybe pelliculosa
Psilocybe semilanceata
Gymnopilus aeruginosus
Gymnopilus luteolus

Oregon
Psilocybe baecystis
Psilocybe cyanarifilios
Psilocybe cyanescens
Psilocybe fimetaria
Psilocybe tinifrons
Psilocybe var. americana
Psilocybe pelliculosa
Psilocybe semilanceata
Psilocybe silvatica
Psilocybe strictipes
Psilocybe stuntsii
Psilocybe subtetaria
Panaeolus subbalteatus

Washington
Same as Oregon plus:
Conocybe cyanopus
Conocybe smithii watling
Gymnopilus aeruginosus
Gymnopilus viridans

In 2006 at Johns Hopkins University, the U.S. government funded a randomized and double-blinded study to test the spiritual effects of psilocybin-containing mushrooms on humans. The study involved 36 college-educated adults, with an average age of 46, who had never tried psilocybin nor had a history of drug use. The participants were closely observed while under the influence of the psychoactive mushrooms for 8 hours.

Upon completion, one-third of the participants reported that the psychedelic experience brought on by the mushrooms was the single most spiritually significant event of their lives. More than two-thirds reported it was among their top five such experiences. Two months after the study, 79 percent of the participants reported increased well being and general satisfaction.

With results such as those above, it should come as no surprise that the psilocybin-containing (a.k.a. "magic") mushrooms have been a significant and influential part of human history for thousands of years. One of the earliest known statements to this fact dates to at least 5,000 B.C. when cave paintings on the Tassili plateau of Northern Algeria were made depicting mushroom-ed Hughes. In one of these images, mushrooms with electrified auras are shown growing out of a dancing shaman.

An average dose of psilocybes is approximately 1 to 2 grams dried mushroom containing roughly 10-25 mg psilocybin while about 2.5-5 grams dried caps and stems (25-50 mg psilocybin) is considered a heavy dose. The effects of these mushrooms typically last anywhere from 3-7 hours depending on dosage, preparation method and personal metabolism.

It's Implications

We perceive this lifecycle as a metaphor for the way humans and, more specifically, radicals, can choose to view our interactions with each other. We see our spores as the ideas we have every minute of our lives: those of a better world and freer existence. And while many of these spores do not find a solid footing and lay to wait, at times a select few hold on and find space to thrive.

Over time, our spores encounter compatible ideas flowing from like-minded allies and the spores combine with infinite variety toward the common goal of survival. Just as mycorrhiza fungi share nutrients and knowledge across the forest, so do we see our networks of mutual aid and grassroots organizing form in a similar fashion. Slowly resources are pooled and information is gathered and shared--acts hidden underground from the mainstream--until the point that the culmination of all the previous toil leads to a final direct action: the projection of a fruiting body.

As this fruiting body thrusts forward with strength and determination, the now unsettled ground reflects the change that has occurred. The time spent building and working, we now see, wasn't for nothing. Action has happened where it could not be stopped.

And as the fruiting body dies back and the immediacy resolves, it sends out spores all over the world to influence, inspire, and grow where they can; to continue the cycle of resistance in the face of oppressive forces.
Types Of Mushrooms

Mushrooms are typically divided into one of the four categories below based on their substrate.

Saprophytic mushrooms break down organic matter as their main role in nature. They are nature's recyclers, the soil's replenishers, vital to the health of forests. If saprophytic mushrooms (and the bacteria that help them) didn't decompose organic matter, the world would literally be piled high in dead trees.

As a byproduct of this decomposition, saprophytes produce nutrient-rich soil. And, of course, as plants use this enriched soil to grow and, in turn, feed the animals, one can see that, in a very real sense, fungi are at a very fundamental level in the cycle of life. They are life-givers as well as destroyers.

"Parasitic" mushrooms, a minority, feed on living organisms, sometimes destroying and eventually killing them. Once seen as hostile to the long-term health of forests, parasitic mushrooms are now being recognized as possibly beneficial through their helping to cut back forests too stressed to thrive. They are also responsible for creating hollow logs which provide homes for wildlife.

Mycorrhizal mushrooms form a symbiotic relationship with plant roots (myco=fungus, rhiza=Root). The mycelium of this type of mushroom can form a sheath over the plant's root tips to penetrate not only the root's wall but also the cell wall, to exchange nutrients and water in a mutually beneficial relationship. This relationship has been shown to exist among almost every plant in the forest and likely exists among all plants.

Many plants grow less vigorously without their fungal partner while others won't grow at all. Some mycorrhizal mushrooms are plant/tree specific. Learning to identify these trees/plants not only helps you to learn more about the natural world but also aids in the location and identification of these fungal friends. Mushroom/plant relationships have also been successfully employed in gardens to significantly increase fruit and vegetable sizes and yields. We cover mycorrhizal mushrooms more in the mycorestoration section.

Endophytic mushrooms are currently less understood than the other three groups but carry out similar functions to mycorrhizal mushrooms. The endophytes pair with plants, enhancing the plants' ability to absorb nutrients, fend off parasites, infections, predatory insects and other mushrooms. The majority seems to have lost the ability to produce spores and spread their entire existence in a continuous mycelial state.

Supplies
- Woody shelf fungus
  - Artist's Conk
  - Turkey tails
  - Red-Belted Polypore
  - Blender or food processor (preferably industrial strength)
  - Knife
- Shallow tub or basin
- Paper making "mold & deckle"
- Pieces of muslin slightly bigger than mold & deckle
- Sheets of newspaper
- Rolling pin

7. Place muslin between mold and deckle put in mixture, and lift it up, letting the excess water run off. Sliding the screen side to side in the water may help disperse it more evenly. See those little chunks? Don't you wish you'd ground it longer now?

8. Remove the top part of the form (the "mold") and invert the deckle carefully onto newspaper.

9. Use a rolling pin to flatten the paper to remove extra moisture.

10. Remove the piece of muslin from the paper carefully.

11. Lay the sheet between several layers of newspaper and let it dry. Continue to dry by replacing newspapers and covering cloths. Ironing gently over a cover cloth can speed up this process. When dry enough to be easily handled, hang to dry or, if you want very flat paper, put it under weights.

12. Make stuff with it. Try adding spores from spore prints to ink and writing with the mixture.
**Mushroom Paper**

An alternative to clearcut or tree plantation-made paper, mushroom paper is an easy, fun way to create beautiful, useful and surprisingly durable paper.

**PAPER MAKING STEP-BY-STEP**

1. Tenderize the mushroom with a sledgehammer (10-20 good smacks).

2. Soak it in water for a while (hours or days).

3. Smack some more then soak some more for a few hours or days (Optional, but helps).

4. Remove mushroom(s) and chop them into small pieces.

5. Put chunks into blender with water and grind to create a pulp. Once close to a smoothish consistency, grind a lot longer till all the chunks are gone. This may take a while. (Don’t burn out the motor! Stronger/more expensive blenders work better).

6. Pour the pulp into a shallow tray and add water. The more water you add, the more dispersed the sediment will be and the thinner your final paper will be. Experiment for what works best for you.

---

**Wild Identification**

Learning to identify mushrooms can at first seem like a giant pain in the ass time killer. With an estimated 1.5 million species in the world, it’s damn hard to know where to start. But really, learning to spot the more common mushrooms in your area is actually pretty easy. And once you get the basics, you’ll find yourself becoming more comfortable with—and looking forward to—learning more species.

In almost all areas of the world there are mushrooms growing. Different mushrooms grow in different environments and on different surfaces, so even if you don’t have a majestic old growth Douglas-Fir forest around the corner, chances are you can find some sort of mushroom growing in your local greenway, ravine, or landscaped yard. You just have to get out and look. And if you don’t find anything the first time, come back later in the season. And if you still don’t find anything, you had a great time out of the house/shed/attic with your friends getting dirty and exploring, right?

Of course, you might also come across mushrooms when you least expect it. Now, you should try to ID the mushrooms as soon as possible, but you probably won’t have a guidebook with you. At these times it’s a good idea to take thorough notes to refer to when you get back home. Note taking not only helps in later identification but it also makes one learn how to look critically at mushrooms. Even though it’s tedious, try it a few times. Hell, some people like mushroom hunting just for the identification aspect.

---

**Ideas for notes:**

- Location
- Weather
- Abundance
- Growth habit (solitary, scattered clustered, in rings)
- Substrate
- Vegetation growing within 50 ft (tree roots, hosts, mycorrhizal) mushrooms can grow at least that far

**If it’s growing on wood:**

- Wood’s stage of decomposition
- Type of wood (hard wood or conifer)
- Tree species

**If growing on the ground:**

- Type of ground (disturbed, compacted, sandy, charred)

As many of the more desirable mushrooms have relatively distinct appearances, ignore the Little Brown Mushrooms (LBM) when starting the identification process. These are the ones with brown cap, stalk, and gills. There are so many it can be very frustrating to try and identify them when starting out.
Some thoughts, some ethics...

- ALWAYS DOUBLE ID CHECK! We can not stress this enough. Always double check descriptions and cross-reference multiple identification books. And don't assume if two mushrooms are growing near each other that they are the same species. For example, certain types of Psilocybe mushrooms can grow so close to nearly identical, and deadly, Galerina species that the two touch! The only difference between the two in this case is their spore colors, an easy thing to miss if one is being too hasty.

- There is, to a certain degree, some debate as to what can be considered greedy when hunting wild mushrooms. Considerations should always be made to a species' need to perpetuate itself. We recommend not picking a field of mushrooms that have yet to open their caps and drop their spores. Leaving some for the next person (or critter) to enjoy should be weighed against the possibility that someone won't come along before the mushroom begins to rot and decay. Also, consider the risk of over-harvesting, which does occur. In Germany, for instance, the Chanterelle is on the endangered species list and in Italy you need to have a permit to pick them because of over-harvesting problems. In the US, the problem does not seem as severe in most places. Still, respect for nature's balance and a fair judgment of one's own needs should always be in mind. This is an opportunity to become closer to the balance of life and see how one's interaction with the natural world can cause effect.

- Don't just pick every mushroom you see. Stick to the ones you know or try to add a few new species at a time. Blindly picking often leads to a giant dirty pile of wetness that nobody is going to want to sort through, clean, and then identify. This soon leads to a slightly smaller pile of rotting mushrooms, some of which could have been eaten.

- If you do find a nice big patch of mushrooms, write down and remember the spot. Well-established plots typically produce year like clockwork. Reliable hunting grounds like these are coveted by mycophiles; one's best spots often being well guarded secrets.

**Mushroom Dyes**

Just as plants provide many natural dyes for clothing and hair, so too do some mushrooms. Techniques of this use of mushrooms date back to at least biblical times but have had a resurgence in the last few decades, especially in the Scandinavian countries. The process for making these fabric and hair mycodies turns out to be fairly simple.

If using fabric, you will likely want to prep it with a “mordant,” a metallic salt used to aid in the setting of the dye to make it last and colorfast. Different mordants produce different colors when combined with the various mushrooms but we recommend sticking with either potassium alum or iron sulfate mordants as they are the least toxic for both you and the environment.

An alum mordant bath consists of 12 grams alum, 4 grams tartaric acid and is sufficient to dye 2-3 kg of yarn. You can reuse old batches by adding 1/2 the quantity of mordant (i.e. 6 grams alum, 2 grams tartaric acid). Place fabric in bath and simmer for about an hour. When the fiber is immersed in the hot mordant bath, the metallic salts bond directly to the strands of fiber. When the mordanted fiber is later put into a dye bath, the pigment molecules form a chemical bond with the mordant on the fiber, thereby setting the color. This step is entirely optional, experiment!

<table>
<thead>
<tr>
<th>Recommended dye fungi:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boletus prusea</td>
</tr>
<tr>
<td>Green / Olive</td>
</tr>
<tr>
<td>Cortinarius semisanguineus</td>
</tr>
<tr>
<td>Alum: Orange and Red</td>
</tr>
<tr>
<td>Dermocybe phoeniceus var. occidentalis</td>
</tr>
<tr>
<td>None: Pink</td>
</tr>
<tr>
<td>Alum: Rose</td>
</tr>
<tr>
<td>Iron: Maroon</td>
</tr>
<tr>
<td>Omphalotus olivescens</td>
</tr>
<tr>
<td>None: Lavender</td>
</tr>
<tr>
<td>Alum: Purple</td>
</tr>
<tr>
<td>Iron: Dark Forest Green</td>
</tr>
<tr>
<td>Paxillus atrotomentosus</td>
</tr>
<tr>
<td>Phaeolus schweinitzii</td>
</tr>
<tr>
<td>None: Light Yellow</td>
</tr>
<tr>
<td>Alum: Gold</td>
</tr>
<tr>
<td>Iron: Burnt Sienna</td>
</tr>
<tr>
<td>Pisolithus tinctorius</td>
</tr>
<tr>
<td>Browns and Gold</td>
</tr>
</tbody>
</table>

**Fabric Dyeing Step-by-Step**

1. Cut mushrooms into small pieces, soak them in water, heat and simmer for a few hours.
2. Cool dye bath for a short time to prevent felting of the yarn, then strain (the spent mushrooms chunks can now be used for papermaking).
3. Place premordanted yarn into the dye bath solution and return to heat.
4. Reheat to about 175-195°F (80-90°C) and simmer for a few hours until desired depth of color is reached.
5. Cool dye bath before removing the yarn.
6. Wash yarn with gentle soap and water, then dry.
7. Store non-dyed "mordanted" yarn wet in plastic bags. Keeps for 6-8 days.
The story of Santa Claus may have come from tales of reindeer herding tribes in northern Siberia. These tribes held ceremonies in honor of the famous and supposedly hallucinogenic to the right person-red and white Amanita Muscaria (aka Fly Agaric) mushroom. The magical compounds found in these mushrooms remain in the urine of the user after ingestion. In these ceremonies the Siberian shaman would dress in red and white and ritualistically distribute their Amanita ladanum urine to other tribe members.

Apart from food and medicine, human uses for mushrooms have extended to all aspects of life. These are just a few interesting facts we've discovered.

- In 1991, Ozi, a 5300 year old woman frozen in ice, was discovered in the Alps on the border of Austria and Italy. On him was the Tinder Polypore (Fomes fomentarius) which, when dried, makes an excellent starting material for foraging and for carrying embers over long distances. The tinder polypore has also been used for:
  - Cauliflouring by Hippocrates in 5th century BC
  - Remedy against dysentery, hemorrhoids, and bladder disorders in Europe
  - Diuretic, laxative and nerve tonic
  - Treating cancers of the esophagus, stomach, and uterus in China
  - Used in smoking rituals in west Siberia by burning the fruit bodies overnight to banish evil spirits
  - As snuff or mixed with tobacco

- Bracket fungi, with their strong hyphae, have been used to sharpen the edges of weapons and tools. The smoke of other polyposes (such as Turkey Tails) is excellent for deterring insects. Supposedly, some polyposes can even be soaked and pounded into a mass that can be thrown into garments, a tradition still alive today in Eastern Europe (we haven't found any information on how this is actually done but it sounds cool).

- When you scratch the white pores on the underside of the Artist's Conk (Ganoderma applanatum), the pores rub away and expose the brown hyphae beneath to create a drawing of whatever is scratched into it.

- The Niaka'pamux tribe of Cascadia used the juices of Tricholoma populinum as a wash for newborns to give them strength and independence like a mushroom. The Japanese used the same juices to combat wrinkles.

- Haida tribes used the spores of Puffballs (Lycoperdon spp.) as a hemostatic. Other tribes rubbed the spores on the navals of infants to prevent bed wetting.

- The Quileute use the position of shelf fungus on trees to aid in orientation when returning from a walk.

- The ash of Phellinus ignarius was mixed with tobacco and smoked by the Micmac, Inuit, and Blackfoot. Its high pH helps boost the tobacco's effect on the body.

- Clean and/or brush the mushroom off before putting it in your container. This helps in the final cleaning back home. Also, keep different species separated with wax paper, or paper bags (no plastic, which accelerates decomposition) so as not to cross contaminate prior to identification.

- If, like chanterelles, the mushroom is growing in pairs, cut and take only one so the other may grow to maturity. Try to cut all mushrooms at their base, leaving the stem butt intact. If you must dig up the mushroom to aid in identification, be sure to refill the hole with duff. These practices have been shown to maintain the health of colonies and ensure future yields.

- Lastly, you may consider learning the scientific names of mushrooms. Yeah, they may seem stupid and boring but they aren't pointless. Many mushroom species have no common name (or multiple common names) and the scientific name may only way to refer to a certain species. Some are even really fun to say, like Pholiota helvelloides (the Apricot Jelly Mushroom). Similarly, learning some of the vocab words used to describe physical characteristics will help a long way (check the descriptors we have running along the bottom of these pages).

**FROM FERAL FORAGER:**

- Meticulously scan the forest floor, keeping in mind that some of the choicest quary is also the best camouflaged. Foresake no terrestrial hiding place; but scour the piles of last autumn's fallen leaves, and examine the carpets of green moss. Inspect the roots and wind fallen trees, and observe the rotting logs, for some wonderful delights may be hidden anywhere.

- Walk not erect, nor in a straight line, but, rather, stay low and wander aimlessly and in circles. Remember perspective is everything, and what cannot be seen from here must be seen from there. Steal glances above you, down into the trees and at their trunks; for often the object of your quest will be hiding there, counting on your eyes to be too earthbound to spot it in its arboreal sanctuary.

- Look, look again, look even once more, and, finally, look again, never counting how many times, for it is the rule of the mushroom hunt that they who have not found any mushrooms have not looked closely enough, nor long enough, nor at enough places, nor from enough different angles.

**STUFF TO TAKE WITH YOU**

<table>
<thead>
<tr>
<th>On Your Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyester or wool clothes (bright colors in hunting season)</td>
</tr>
<tr>
<td>Rain jacket &amp; pants</td>
</tr>
<tr>
<td>Gators</td>
</tr>
<tr>
<td>Sturdy moisture proof boots</td>
</tr>
<tr>
<td>Hat</td>
</tr>
<tr>
<td>Mittens/gloves</td>
</tr>
<tr>
<td>Wristwatch</td>
</tr>
<tr>
<td>Compass</td>
</tr>
<tr>
<td>Whistle</td>
</tr>
<tr>
<td>FRS walkie-talkie radios (Different from CB radios and MUCH better in all respects.)</td>
</tr>
<tr>
<td>GPS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In Your Flat- Bottomed Basket</th>
</tr>
</thead>
<tbody>
<tr>
<td>waxed paper bags (no plastic!)</td>
</tr>
<tr>
<td>knife, brightly marked</td>
</tr>
<tr>
<td>Brown paper bags</td>
</tr>
<tr>
<td>Trowel with brush</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In Your Backpack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good map of the area</td>
</tr>
<tr>
<td>Food &amp; water</td>
</tr>
<tr>
<td>Extra clothes</td>
</tr>
<tr>
<td>Sunscreen</td>
</tr>
<tr>
<td>Insect repellent</td>
</tr>
<tr>
<td>Trowel and toilet paper</td>
</tr>
<tr>
<td>Field guides</td>
</tr>
<tr>
<td>Notebook &amp; pencil</td>
</tr>
<tr>
<td>Spore print paper (black and white)</td>
</tr>
<tr>
<td>Photography equipment</td>
</tr>
<tr>
<td>Emergency blanket</td>
</tr>
<tr>
<td>First Aid Kit</td>
</tr>
<tr>
<td>Waterproof matches or lighter</td>
</tr>
</tbody>
</table>
The field guides contains information on identifying different species of mushrooms, with a focus on distinguishing edible from non-edible species. It advises that even experienced mushroom hunters should always double-check their identifications. The text provides descriptions of the appearance of different types of mushrooms, including shape, cap, and gill characteristics.

A note on poisonous and deadly mushrooms: The text warns that there are poisonous mushrooms present in the US, and many more that can make you sick or give you a strong hunch in the gut. Learning to tell the difference between these and edibles is important. The Amanita mushrooms, in particular, need to be avoided. They are often confused with the legendary red Amanita Muscaria. The text advises that when in doubt, chuck it out (or compost it).

Method 5: To grow mushrooms, soak 1" long wood dowels for several days, drain them, then dump in a cardboard box with a few stems butts mixed in. Cover with soaked corrugated cardboard sheets. Leave outside, stirring the box up after 6 months.

Once the dowels are well covered with mycelium, they can be harvested and placed into holes drilled into 2" x 4" logs and then covered with bees wax. The preferred wood would have been felled in the fall or winter (after the leaves have fallen and all the sugars are concentrated in the wood), between 3 weeks to 3 months prior to use. Hardwoods and broadleaf trees such as alders, oaks, and maples are typically preferred over most coniferous species.

Kept moist and shaded, these logs will produce mushrooms in months (up to 16, depending on the species) and will continue to do so for years. Whatever spawn you grow can be mixed with untreated moist wood chips in burlap sacks to create “bunker spawn”. These sacks can be used in mycorrhizal projects by being completely submerged in the contaminated flowing water. Or they may be placed along logging roads to prevent erosion.
**METHOD 3**

An easy way to clone a mushroom you found in the woods is by directly taking a piece of the mycelium and providing an environment for it to flourish at your home.

1. If you find a patch of mycelium in the woods collect a strong ropey chunk of it or take a fresh mushroom and cut off the bottom of the stem including the ropey rhizomorphs (called the "stem butt").
2. Place this in a moistened paper bag.
3. At home, flatten a corrugated cardboard box from the USA or Canada (boxes from other countries may have toxins in their glue) and strip one side to reveal the corrugations.
4. Wet the cardboard until it is saturated and place the mycelium on the corrugated side.
5. Cover with straw.
6. Once 25-50% of the cardboard is covered with mycelium it can be moved to a bed of fresh, moist wood chips or placed between two burlap sacks full of moist wood chips or between more moist cardboard sheets. The mycelium will continue to grow as long as more substrate is introduced.

**METHOD 4**

1. Soak cardboard until saturated & expose corrugations.
2. Place one stem butt from every 16 inches.
3. Sandwich with another panel of corrugation.
4. Soak stem butts and cardboard in water.
5. Place in a container on the ground, covering with a thin wood chip layer.
6. Incubate for 4-8 months before transplanting.

**SULFUR TUFT**

*Naematoloma/lypholoma fasciculare*

**Appearance:**
- **CAP** - Small to medium, domed to flat with age. Yellow orange, yellow, or green-yellow bald. Not sticky or slimy.
- **GILLS** - Yellow or green-yellow when young, graying with age. Adnexed and crowded.
- **STALK** - Slender, yellow or tawny.
- **SPORES** - Deep purple.
- **FLESH** - Thin and yellow.
- **ODOR** - Faint "distinctive" odor.

**Growing Pattern:**
In tufts or clusters on rotten wood. On stumps or buried roots of conifers and broadleaf species.

**Growing Season:**
Spring to first frosts.

**Edibility:**
Poisonous! DO NOT EAT!

**Notes:**
From Latin, "in small bundles." Distinguished by its clustered growth pattern, greenish gills, and a bitter flavor.
HONEY MUSHROOM

Appearance:
- **CAP** - Medium to large, 3-15 cm. Yellow to brown. Covered in erect brown hairs spreading toward edge.
- **GILLS** - White to yellowish, not brown. Crowded, decurrent or non-decurrent.
- **SPORES** - White, dusting caps beneath.
- **FLESH** - Fine, white.
- **ODOR** - Oily.

Growing Pattern:
- Widespread and abundant. Growing in clumps on many types of trees, logs, and stumps.

Growing Season:
- Summer & autumn.

Edibility:
- Cook well (parboiling recommended). Good for drying.

Notes:
- Very common with rather wide variance in appearance. Can be tricky to ID even with experienced hunters. Confirm all identifying characteristics. Avoid those growing on buckeye and hemlock. Don't confuse with poisonous Sulfur Tufts.

---

Cultivation

In this section, we present several simple mushroom growing techniques for the DIY beginner. For a more in-depth explanation and description of this science, we strongly encourage reading Paul Stamets revolutionary text, *Mycelium Running: How Mushrooms Can Help Save the Planet* (upon which the following section is largely based). Other cultivation books are recommended in the back of this zine.

**METHOD 1**

- Oyster spores (collected from a spore print) can be cast directly onto moist, untreated wheat straw in January (the temperature should be around 35-55 degrees). Leave the straw outside and mushrooms should fruit by around March. This technique requires minimal maintenance as wet straw does not get moldy for months in colder temperatures. This technique is geared more for personal consumption rather than mycoremediative purposes.

Of all the mushrooms commercially cultivated and easy to come across in the wild, the Oyster mushroom (*Pleurotus ostreatus*) is by far the easiest and the best recommendation for beginners. It is fast growing on almost any substrate, highly adaptive to its environment, and proven capable of effectively and aggressively breaking down petroleum based products.

**Sources of mycelium for mycoremediation include:**

- Commercial grain or sawdust spawn you purchase
- "Spent" compost from a mushroom farm
- Transplanted mycelium from wild patches
- Grown via these techniques:
  - Stem butt spawn
  - Cardboard sheet spawn
  - Plug spawn
  - Bunker or burlap sack spawn
  - Spore mass spawn

**METHOD 2**

- Boil a gallon of water for 10 minutes, cool it, then pour it in a clean container that has not held chemical or milk products. To this, add a ¼ tsp salt and 1 tbsp of sugar, mixing thoroughly. Add a teaspoon of spores from a spore print. Cover the container and incubate it at room temperature, shaking vigorously twice a day. Once fine threads of mycelium are barely noticeable, use immediately by pouring around the base of saplings or plants in your garden. This technique works for many species though some species have more specific germination temperature ranges. Through trial and error you may find a species that works well with your garden vegetables. Significantly increased yields can be had through these induced mycorrhizal relationships.
Mycorestoration

A new science has been developing over the last few years revolving around the use of mushrooms to aid in healing damaged natural environments. Termed mycorestoration, this emerging field has only just begun to be explored. Through experimentation, the possibilities that mushrooms hold grow every day. The potential that mycorestoration shows for slowing and/or reversing some of the disastrous impacts humans have made on the natural world in the past century are of great interest to the SLF. Indeed, the spreading of these new revelations was main purpose behind the creation of this zine. We hope the following overview inspires you to learn more and maybe put some of the techniques we present to use as a means to directly contribute to the health of our planet.

As we have described above, mushrooms play a key role in the health and vitality of a forest ecosystem. Through the use of powerful enzymes, it has been discovered, certain mushrooms are able to break down not just organic matter into fertile soil, but also toxic chemicals and other waste products of industrial civilization into non-toxic compounds. Mushroom species have been discovered that can break down petroleum products, effectively cleaning up oil spills. Others are readily able to “soak up” and sequester heavy metals such as cadmium, radioactive cesium, mercury, lead, and arsenic from polluted soil; concentrating them into the mushroom’s fruiting body for easy disposal (thus, NEVER eat a mushrooms that was potentially grown in substrates carrying heavy metals). Through the intentional introduction of the right species at the right times, human can methodically harness the power of our fungal allies to heal damaged environments. Some simple ways to do this in your neighborhood or abroad are presented in the next few pages and break down into 3 categories:

Mycorrhizal - the use of mycelium as a membrane for filtering out microorganisms, pollutants, and silt from polluted rivers, watersheds and urban water systems. Like Gala’s natural filter, one square inch of soil can contain 8 miles worth of mycelial interlaced webbing. As water passes through these microscopically fine nets, microorganisms and pollutants are trapped and, potentially, digested by the mycelium.

Mycoforestry - the practice of intentionally introducing specific, often saprophytic, mushrooms into disturbed or clear-cut forest areas to stimulate decomposition and trigger habitat recovery. By introducing inoculated woodchips (no smaller than 1/8 inch and to a depth no greater than a foot) into such areas, the wood debris left over by logging is quickly transformed into rich soil in a matter of a few years, enabling the damaged environment to recover much faster. Examples of application include introducing mycelium to help prevent erosion (caused by logging roads, for example) and spreading wood chips inoculated with mycorrhizal mushrooms around the base of saplings to help them grow faster and stronger.

Mycoremediation, the real showstopper, is the use of mushrooms to break down complex toxins into less toxic chemicals. The enzymes created by certain mushrooms to digest organic matter have been shown to break chemical bonds found in petroleum products, herbicides, pesticides, dioxins, PCBs, DDT, Agent Orange, and munitions such as TNT. In other words, the fuck up chemicals get turned into not so fucked up ones. One need only to introduce the mycelium to an affected environment and let the mushrooms do the work. As great as a discovery as this may sound (fucking astonishingly amazing if you ask us!), it is still only slowly gaining acceptance and implementation around the world. We’d like to see that change.

Appearance:
- CAP - 2" broad. White, tan, gray, or brown.
- GILLS - White. Crowded, unequal, decurrent.
- STALK - Short, thick, or absent.
- FLES - Thick. White.
- ODOR - Pleasant.

Growing Pattern:
- Late autumn to first frost. Reappearing during mid mild winters and in spring and summer with rains.

Edibility:
- Delicious grilled or fried. Check for white grubs.

Medicinal Value:
- Oysters are believed to help reduce blood cholesterol and to have anti-tumor and HIV-inhibiting properties.

Notes:
- The term Oyster Mushroom is used to describe a number of similar species, all of which are edible. If you find a heavily fruiting log in the woods, carry it home and keep it moist to continue harvesting.
**Quick Chanterelle Sauté**

**Ingredients**
- Chanterelles
- Sea salt
- Unsalted butter
- Shallots

**Mushroom Ketchup**
- Makes 2 pint jars
- 2 pounds mushrooms, drained & trimmed
- 1/4-inch slice fresh ginger peeled, minced
- 5 garlic cloves, minced
- 1/2 cup white distilled vinegar
- 1/2 teaspoon ground allspice
- 1/2 teaspoon ground cloves
- 1 teaspoon sugar
- 1-1/2 teaspoons salt or more

Sprinkle salt into pan, add coarsely broken up chanterelles over high heat and "dry sauté" for a few minutes until the moisture is removed. Add unsalted butter or oil in a good amount, stir, cook for 5 minutes or so, add tarragon, some cream (optional) and some shallots.

**Baked Mushrooms**
- 1 to 2 pounds mushrooms, cut in halves
- Salt and pepper to taste
- 5 to 6 tablespoons butter
- About 4 tablespoons heavy cream

Spread the mushrooms in a long baking pan. Dust lightly with salt and pepper and dot with butter. Cover and bake in a preheated 350°F oven for 25 minutes. Pour the cream into the pan and bring to a boil on top of the stove.

**Chanterelle Beer Recipe**

**All-Grain Recipe:**
- 9.5 lb (4.3 kg) 64% U.S. two-row lager malt
- 2.0 lb (0.90 kg) 13% British two-row pale ale malt
- 1.5 lb (0.68 kg) 9.5% Munich malt
- 1.3 lb (0.60 kg) 9.3% wheat malt
- Yeast: 5 gallons (19 liters)
- Gravity: 1.083 (20.5 °P)
- AlcoholVol: 3.7 to 6.7%
- Color: Amber
- Bitterness: 27 IBU
- Yeast: Belgian abbey
- Maturation: 2 to 3 months

**Extract + Steeped Grain Recipe:**
- 6.0 lb (2.7 kg) 78% pale dry malt extract
- 1.0 lb (0.45 kg) 10% dextrose malt
- 0.5 lb (227 g) 5% pale crystal malt
- 0.5 lb (227 g) 5% medium crystal malt

To the secondary either directly add cleaned, chopped Chanterelles or vodka in which Chanterelles have been soaking for 3 weeks.

**Hops:**
- 0.75 oz (21 g) 90 min Saaz (5% AA)
- 1.3 oz (43 g) 30 min Saaz (5% AA)
- 1.5 oz (43 g) 10 min Saaz (5% AA)
- 0.5 oz (14 g) end of boil Cascade (3% AA)

**Notes:**
- Very common once you recognize them. Source of PSK (a.k.a. krestin) a commercial anti-cancer drug in Asia.

**Appearance:**
- CAP - Tough and leathery, with narrow zones of color.
- TUBES - Whitish, turning brown with age.
- STALK - None.
- SPORES - White.
- ODOR - None.

**Growth Pattern:**
- Grows shelf-like or in rosettes in groups, rows, or shelving masses on dead and occasionally living hardwoods.

**Growing Season:**
- Grows all year.

**Edibility:**
- Too tough for food though can be used for soup stock, or chewed as a natural chewing gum while hiking.

**Medicinal Value:**
- Immune system enhancer, anti-tumor, anti-viral, anti-bacterial, and anti-oxidant. Useful for infection and inflammation of the upper respiratory, urinary, and digestive tracts, and is used for general immune weakness and tumors. Take as a tea up to 20g 3x/day.

**Floccose**
- Tomentose
- Hirsute
- Villose
- Strigose

**Tomentose**
- (downy flakes
- loosely tufted)

**Hirsute**
- (stiff, med. stiff, straight + shaggy)

**Villose**
- (long, weak)

**Strigose**
- (long, coarse)
OREGON REISHI
Ganoderma oregonense

**Appearance:**
- **CAP** - Shelf-like with shiny surface crust. Reddish or mahogany. 6" or larger when full grown.
- **PORES** - White and soft or corky when fresh, turning satin brown when scratched.
- **STALK** - Absent or attached to side of cap.
- **SPORES** - Brown.

**Growing Pattern:**
On dead or dying conifers from Alaska to California.

**Growing Season:**
Year round (?).

**Edibility:**
Not edible. Used medicinally as a tea, powder or extract.

**Medicinal Value:**
Believed to promote good health, longevity, and prevent cancer.

**Notes:**
A relative, the true Reishi (Ganoderma lucidum), is called Ling chih, the "mushroom of immortality," in China, where it has been used for millennia to cure heart arrythmias, palpitations, chronic bronchitis, hepatitis, Alzheimer's disease, diabetes, and kill cancer. The basic tincture recipes on the following page work great with this mushroom for use as a general tonic and immune system enhancer.

MORELS
Morchella esculenta & eleta

**Appearance:**
- **CAP** - Round to cone-shaped. Honeycombed with pits and ridges. Completely intergrown with stalk. M. esculenta is buff, tan, or yellow-brown. M. elata is black, grey, olive-brown, or reddish-brown.
- **STALK** - Without a sack or cup at base. White or tinged grey.
- **SPORES** - White.
- **FLESH** - Whitish. Entire mushroom hollow.
- **ODOR** - NOT obnoxious.

**Growth Pattern:**
Some say Morels follow no growth pattern and grow where they please. The following are suggestions for where to start looking. Blacks (M. elata) are found under the deep leaf debris of maple, poplar, and beech trees. Yellows (M. esculenta) are almost always in association with ash trees. Sometimes around trees (e.g. Ulmus americana) dying from Dutch elm disease. In well drained and humus rich soil. Easily missed as they tend to hide under debris or blend in with pinecones so use a stick and check all suspicious bumps and piles. Often appearing in areas destroyed by fire or landslide the year prior. Do not always produce reliable yearly crops.

**Growing Season:**
Early Spring (mid March - end of May).

**Edibility:**
Gourmet. One of the most highly regarded wild edibles.

**Notes:**
One of the most coveted and sought after wild mushrooms due to their tricky nature. Competition can be fierce. People have been known to intentionally cause forest fires to produce flushes the following year (a practice we DO NOT ENCOURAGE!).

Gill Size and Shape
- **Gills**
  - Average
  - Thick
  - Tapering
  - Spilling

Gill Attachment
- **Gills**
  - Crowded
  - Close
  - Distant
  - Subdistant

Mushroom Parts
- **Eroded** ("gnawed")
- **Split**
- **Lacerate** (torn)
- **Hairy**
- **Tomentose** (hairy)
- **Undulating** (wavy)
- **Crenate** (scalloped)

Remote/Close
**SHRIMP MUSHROOM**  Russula xerampelina

**Appearance:**
- **CAP** - Red to purple-brown, sometimes with green or brown. Broadly domed to flat. Sticky when moist adhering to debris when dry.
- **GILLS** - Whitish to yellowish with brownish stains, attached to stalk.
- **STALK** - Partly or entirely rosy pink at the base, bruising yellow to brown. Brittle, snapping like chalk. Flesh inside stalk spongy to brownish. Veil and ring absent.
- **SPORES** - Yellow.
- **FLESH** - Whitish, darkening when exposed to air. Thick. Soft.
- **ODOR** - Of cooked crustaceans or herring.

**Growing Pattern:**
On the ground around conifers especially Douglas-firs, hemlock, and pines.

**Growing Season:**
Summer to late autumn.

**Edibility:**
Delicious. Caps can be sauteed, toasted, stuffed, or broiled.

**Notes:**
- Sweetish taste, NOT peppery. Fishy scent when old.

---

**POTENT PSILOCYBES**  Psilocybe cyanescens

**Appearance:**
- **CAP** - Domed when young, flat to wavy with maturity. Reddish brown, dark brown, caramel brown, fading to tan as it dries. Bald, slightly sticky when moist.
- **GILLS** - Brown and darkening with age.
- **STALK** - White, bluing when bruised. Fibrous veil present when young not, forming ring. Slender.
- **SPORES** - Deep purple. NEVER brown, yellow- or rusty-brown.

**Growing Pattern:**
In wood chips, landscaped areas, and edges of woods.

**Growing Season:**
September - November.

**Edibility:**
- Strongly hallucinogenic.

**Notes:**
- Can be tricky to ID. Be sure to check other sources as poisonous look-alikes do exist. Mycologist and author Paul Stamets has been quoted stating that if you pick a mushroom that both bruises blue AND has a purple spore print, eat it because it will likely get you high. See the Sacred Mushrooms section for more information about the history and effects of psychedelic mushrooms such as these.
Cooking & Preservation

Aurum et argentum facile est... boletos mittere difficile est (It is possible to live without gold and silver... but to abstain from eating mushrooms is difficult)
– Martial 43-104 AD

When eating mushrooms that are new to you it's important to remember that what one person calls a buttery Chanterelle, another may call an allergy inducing fungal foe. As different people react differently to different foods, we recommend eating a small amount of any mushroom that is new to you to see if you can stomach it. This means eat a cm² cooked bit then wait a few hours to days to see if anything happens. It's also a good idea to try only one new mushroom at a time. Cooking helps increase digestibility. (Not only can raw mushrooms make you sick but your body can't break down their tough cell walls without cooking), but overcooking can remove nutritional value.

Don't eat rotten mushrooms or overindulge in any mushroom eating. And never, NEVER eat any mushrooms grown on substrate that potentially carried heavy metals (e.g. mushrooms picked from the side of the road). These practices will very likely get you laid up in the hospital.

When cooked right, some wild mushrooms species taste fucking dank. If you're into that sort of thing we have some recommended cookbooks in the back or just follow these outlines to start with.

**DRYING:**
Chanterelles, morels, shiitakes, and boletes all dry well. Slice and dry by hanging or with a dehydrator. Store in a clear jar with a tight fitting lid. Reconstitute with any liquid, the mushrooms will absorb their flavor (gravy works well).

**PICKLING:**
Works best with firm-textured species.
Simmer the following for 15 minutes:
1 cup white vinegar 2 bay leaves
¼ cup balsamic vinegar 1 tsp peppercorns
Some thyme or dill
Add around 10 ounces mushrooms and simmer 10 minutes longer.
Pour all ingredients into a sterilized jar (boil the jar a few minutes), seal, and let them pickle.

**STOCK:**
A good way to make use of damaged, maggoty, or decaying mushrooms. Or ones that don't last long. Will keep for around 5 days in the fridge or about 6 months in the freezer.

To make 2 quarts:
2 lbs mixed mushrooms 2 lbs mixed mushrooms
1 onion, roughly chopped 1 onion, roughly chopped
2 carrots, roughly chopped 2 carrots, roughly chopped
2 stalks of celery, chopped 2 stalks of celery, chopped

Put in a pot and add enough water to cover. Bring to boil and simmer for an hour and a half. Strain and cool before putting in fridge or freezer.

**CHANTERELLE BUTTER**

0.5 – 1 lb. chanterelles
1 cup butter

2) Melt butter on low, do not brown.
3) Add mushrooms to melted butter, cover and simmer until mushrooms contain no liquid and are golden.

1) Clean, dry, and thinly slice chanterelles.

The cooked chanterelles are now ready to go! The now flavored butter can be cooled and stored for later use. Great on toast.

<table>
<thead>
<tr>
<th>Pruinose (white dust)</th>
<th>Pulverulent (med. fine powder)</th>
<th>Granulose (like dandruff)</th>
<th>Scurfy, branny</th>
<th>Zonate (mud-cracked)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A Note On Medicinals

Apart from tasting great, many wild mushrooms provide significant health benefits for humans as well. Mushrooms are often low in fat and carbohydrates but high in protein and dietary fiber. Many contain varying amounts of Vitamins B, K, A, & D and essential minerals.

Moreover, the medicinal use of mushrooms dates back thousands--if not tens of thousands--of years in China and to at least the time of Hippocrates in ancient Greece. Various mushroom species naturally excrete high levels of antibiotics to protect themselves from hostile microbes in their habitat. From them, antibiotic compounds useful to humans have been isolated. Research has also shown that various other compounds extracted from some mushrooms have the ability to inhibit the growth of cancer cells. Other mushrooms have shown serious potential to fight HIV and other serious viral infections and still others can help reduce cholesterol. The research of mycomedicinals, like most branches of mycology, is a relatively new field in western science and new discoveries are made all the time.

GENERAL TINCTURE RECIPE 1:
- Fully dry mushroom
- Boil 3 TBs/Quart water, reducing over 2-4 hours to 1 Pint.
- Separately, make a tincture 70% alcohol, 20% glycerin, 10% water and combine with dried mushroom at a ratio of 1 part dried mushroom to 4 or 5 parts tincture mix.
- Combining the two mixtures in equal parts.
- Take 5-30 drops twice a day.

GENERAL TINCTURE RECIPE 2:
- Fill up half a container with dried, powdered mushroom.
- Fill container to the top with the strong vodka. Allow it to sit for a few days to 2 weeks.
- Strain off the liquid and run it through an unbleached coffee filter. Boil this strained powder at 3 TBs/Quart water, reducing over 2-4 hours to 1 Pint.
- Combining the two, maintaining an alcohol concentration of around 25%.

Source:
Mycomedicinals
by Paul Stamets

<table>
<thead>
<tr>
<th>Species</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agaricus bitorus (Himenitake)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cordyceps sinensis (Cordyces)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flammulina velutipes (Inonotus)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Amanita phalloidea (Manicopora)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gastrodiae lutea (Artis Cocos)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gastrodiae decipiens (Reishi/Ling Chi)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gastrodiae eryngii (Oregon Polyoporus)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gastrodiae confluens (Yamamoto)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inonotus chongtai (Chaga)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lamellata edulis (Shitake/Xiang Gu)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Phallus flaccida (Mawai)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pleurotus ostreatus (Hiratake/Pearl Oyster)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Polyporus sulphureus (Chicken of the Woods)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Polyporus umbellatus (Zhu Ling)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Schizophyllum commune (Suetake/Split-Bill)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Trametes versicolor (Von Zinn/Turkey Tail)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gill Edges</th>
<th>Rimose</th>
<th>Entire</th>
<th>Serrate</th>
<th>Eroded</th>
<th>Fimbriate</th>
<th>Marginate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margin</td>
<td>Entire</td>
<td>Even</td>
<td>Serrate</td>
<td>Eroded</td>
<td>Fimbriate</td>
<td>Marginate</td>
</tr>
<tr>
<td>Striate</td>
<td>(w/lines)</td>
<td>(w/fragments)</td>
<td>(w/grooves)</td>
<td>(w/pleats)</td>
<td>(w/cracks, crevices)</td>
<td></td>
</tr>
</tbody>
</table>