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EDIBLE WILD MUSHROOMS



How to Tell the Difference Between Poisonous and Edible.

The simple answer to this is that you can't tell the difference without identifying the individual mushroom you have found.



- Morels
- Wood Ears
- Dead Man's Fingers
- Coral-Tooth
Mushroom
- Bear's Head Tooth
- Chicken of the Woods
- Rooster of the Woods
- Hen of the Woods
- Dryad's Saddle
- Puff Balls
- Oysters, Elm and
Gray
- Honey Mushroom
- Velvet Foot
- Turkey Tail
- Artist's Conk

Why are mushrooms important?

- Most of soil is mushroom matter mixed with dirt, so it's essential. The fungi mycelium breaks up plant fiber to decompose it so that new plants can grow. The lack of mycelium in the soil is what causes desertification because dirt alone doesn't retain the water needed for plant life.
- So nothing lives without support from mushrooms. It is the earth and in many respects the forebearer of mankind.

Mushrooms Could Change the World

- Using fungi to remove or neutralize environmental pollutants (like oil) is a technique called mycoremediation.
- Mushroom mycelium is being used to create insulation, foam-like packaging, home building materials and others.
- Mushrooms have a plethora of antiviral and antibacterial agents that have been shown to fight cancer, diabetes, high blood pressure, influenza and smallpox.



Katy Ayers & William “Ash” Gordon from Nebraska Mushroom grew this boat from mushroom mycelium in just 14 days!

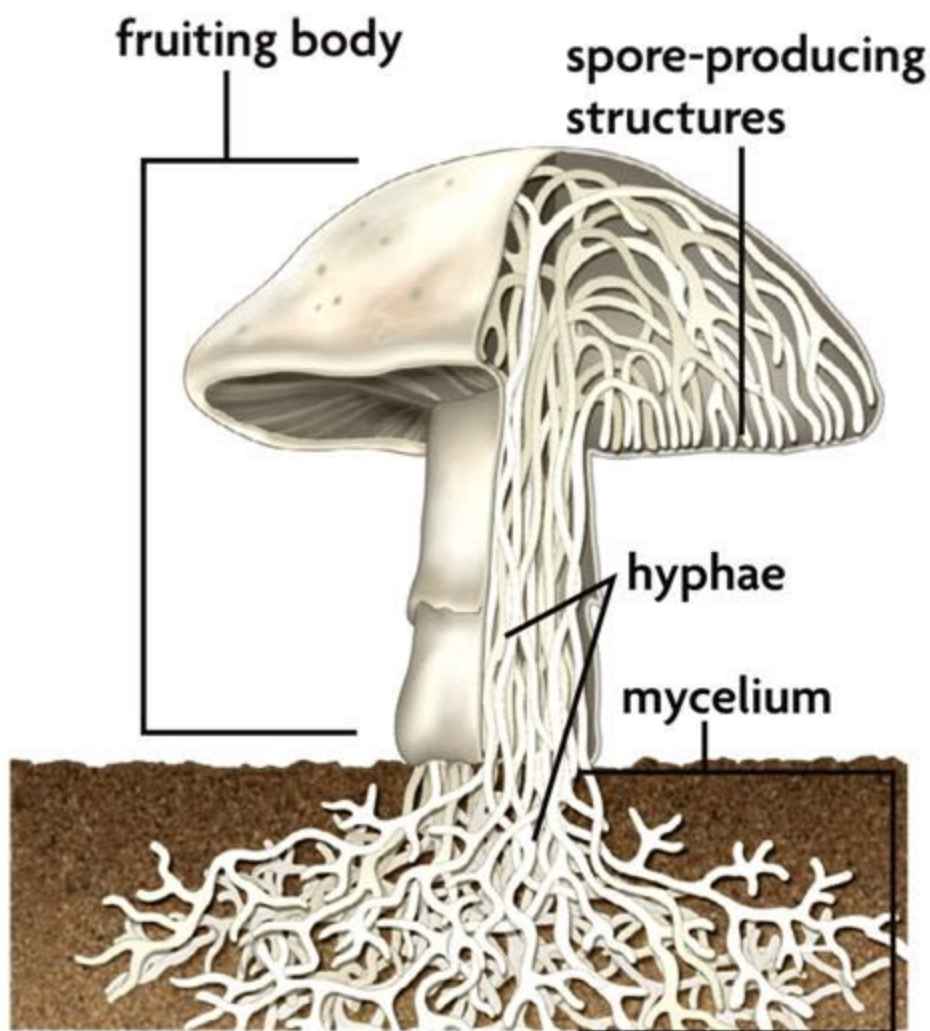


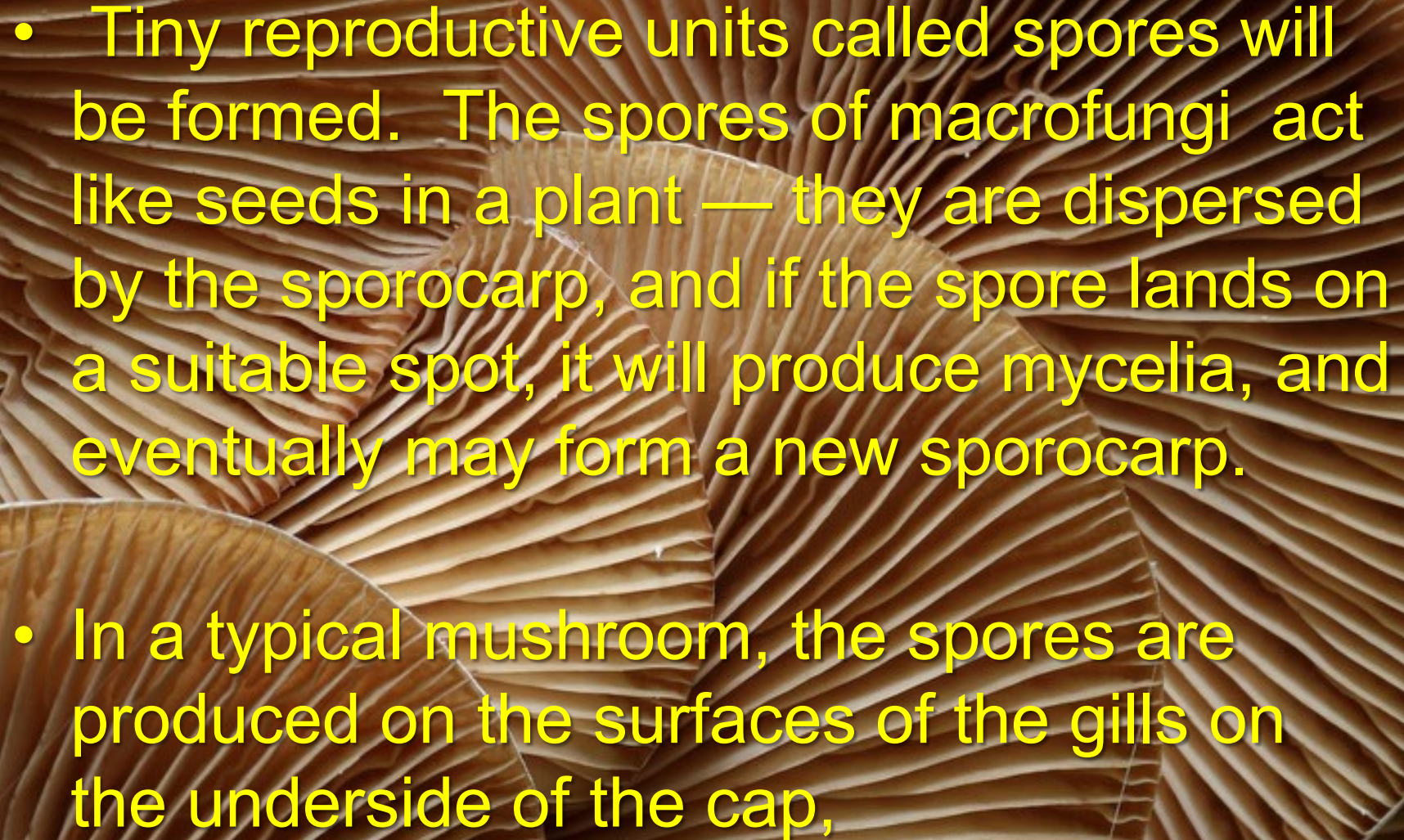
What is an wild mushroom?

- Mushrooms are technically called “macrofungi”
- What Macrofungi all have in common is that they form structures called fruiting bodies or sporocarps –these sporocarps are typically the above ground part of the mushroom that you see.

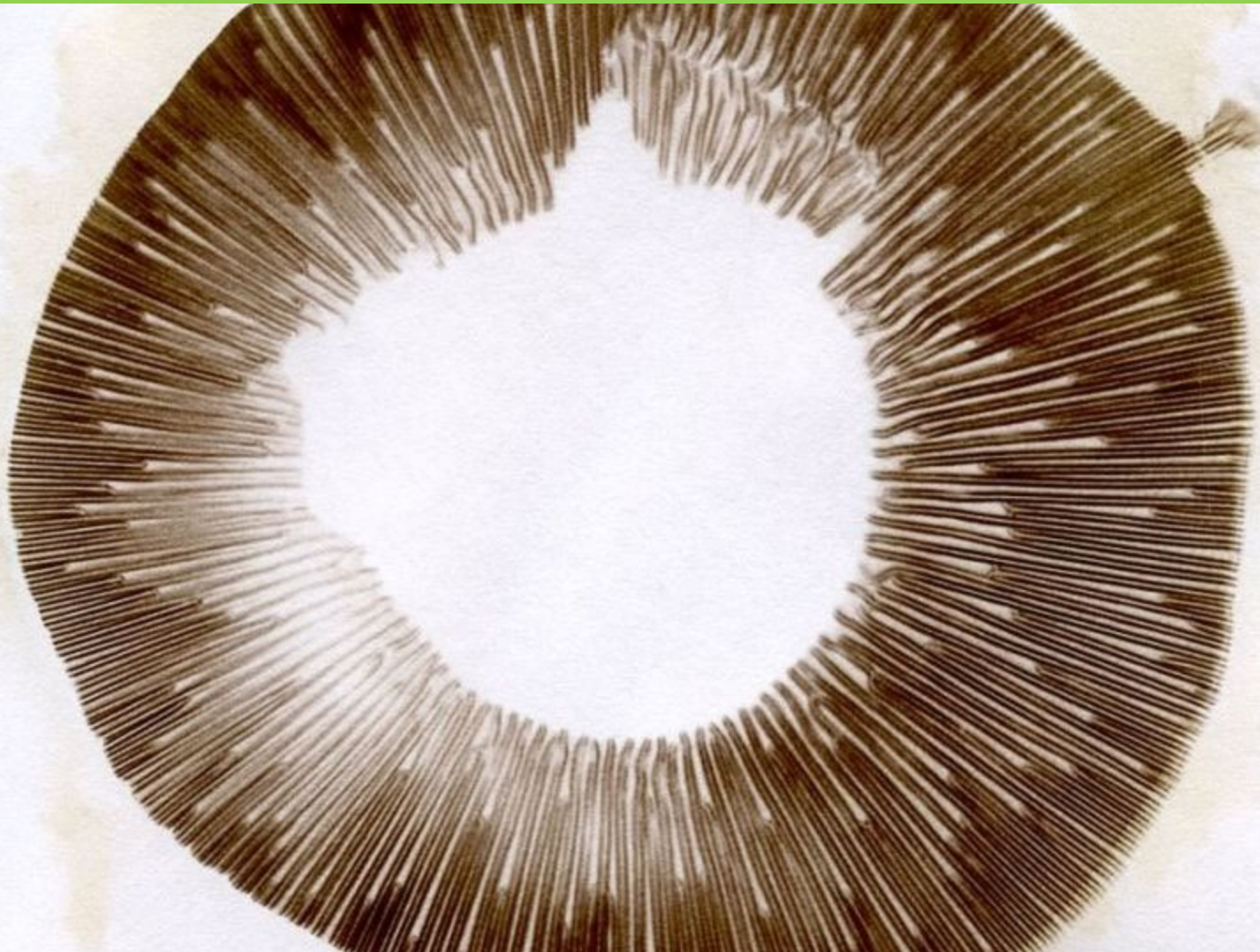
Fungi Structure

- What grows underground?
 - Hyphae: thin strands of cells that make up the fungus body
 - Hyphae branch into a larger mass (mycelium)
- What grows above ground?
 - Fruiting body: reproductive structure creates spores



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- A close-up photograph of the underside of a mushroom cap, showing numerous light brown, wavy gills. The gills are densely packed and have a slightly curved, ribbed appearance. The lighting is soft, highlighting the texture of the gills.
- Tiny reproductive units called spores will be formed. The spores of macrofungi act like seeds in a plant — they are dispersed by the sporocarp, and if the spore lands on a suitable spot, it will produce mycelia, and eventually may form a new sporocarp.
 - In a typical mushroom, the spores are produced on the surfaces of the gills on the underside of the cap,

Mushroom Spore Print



While a single mushroom spore can't be seen by the naked eye, a pile of many spores can—and the color of a mushroom's spores is a crucial identification feature. Obtaining a mushroom's "spore print" can be an essential step in the identification process.

- Mushrooms frequently make their own spore prints, in nature. If you have ever noticed colored dust covering a leaf or the ground beneath a mushroom's gills or pores, you have probably witnessed this phenomenon.
- Tightly clustered mushrooms, in fact, frequently leave spore prints on one another, since caps overlap.

Mushrooms are Nutritious

- Mushrooms are low in calories, high in fiber, and contain many important vitamins and minerals. Some also have medicinal properties such as complex carbohydrates that strengthen the immune system.

Nutritional Value of Mushrooms

Fiber
Inhibit Histamine Release
Phosphorous
Tasty
Low Fat
Potassium
Magnesium
Copper
Polysaccharides
Stimulate the Immune System
Zinc
B Vitamins
Few Calories
Iriterpenes
Vitamin D
Selenium
Protein
No Cholesterol



Increase your vitamin D

Yes, vitamin D! Mushrooms are the only fruit or vegetable source of this critical, so-called sunshine vitamin. Like humans, mushrooms produce vitamin D when exposed to sunlight.

Morel Mushroom



Morchella, the true morel, is a genus of edible sac fungi, with a distinctive honeycomb appearance due to the network of ridges with pits composing their caps.





COOK MUSHROOMS PROPERLY

- Prepared sliced mushrooms in a skillet on medium-low heat.
- Cook over low heat stirring occasionally until all the water is released from the mushroom and evaporates.
- Increase the heat to medium-high and saute in butter or olive oil until caramelized and golden brown.



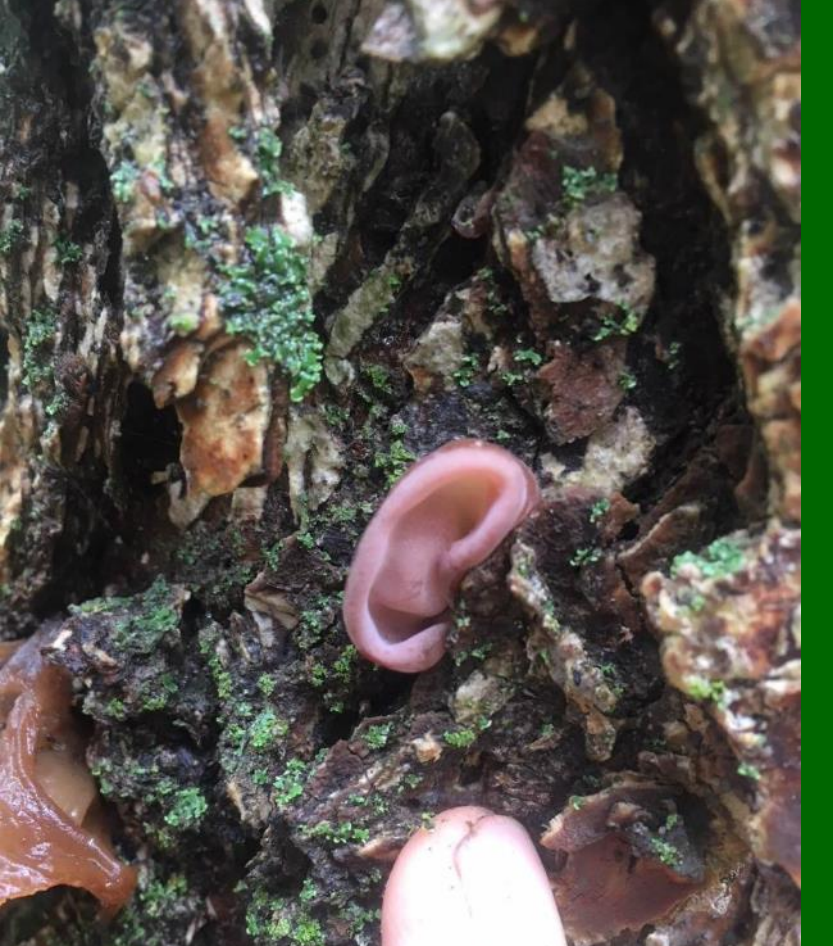
HOW TO STORE MUSHROOMS PROPERLY

- Prepared sliced or diced mushrooms.
- Blanch the mushrooms by adding to boiling salted water for up to 3 minutes
- Drain well and allow the surface to dry on newspaper or paper towels.
- Store in airtight freezer bags for up to a year or more.
- Prepared mushrooms can also be dried for long term storage.

Wood Ear Mushroom

Auricularia auricula-judae

Also called “black fungus” a popular ingredient in many Chinese dishes



Modern research into possible medical applications have variously concluded that It has antitumor, hypoglycemic, anticoagulant and cholesterol-lowering properties.







what will people see?

Eclipse

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The longest total solar eclipse on record will be on July 16, 2186, and last 7 minutes, 29 seconds.

the shortest, on 3,919, was 9 seconds. It occurred 2,700 years ago.

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your vision, so just using the ap-

proved glasses are really the only

way to safely view the eclipse,"

the eye doctor said.



Dead Man's Fingers

Xylaria polymorpha



I generally see them growing around the base of dying trees, sometimes in impressive numbers.



Shave them raw over something hot, like a bowl of pasta or stir fry to release their flavor a bit as they warm.

Coral Tooth Mushroom

Hericium coralloides









Bear's-head Tooth mushroom

Hericium americanum



There are four species found in North America are edible and are among the safest and most unmistakable mushrooms

Chicken of the Woods

Laetiporus sulphureus





- Once summer mushrooms start coming out the bright orange of chickens stick out like a sore thumb. But more often than not you will come across flushes of them that are past their prime, again and again.
- But once in a great while you can find some that are really good. The key is timing.
- I can't stress enough how important it is to get the youngest chicken of the woods that you can find. Chicken of the woods grow pretty fast, and as they grow they get tough and leathery or riddled with little bugs.



One of the safest, widely available mushrooms out there, and if you catch them at the right time they're some of the best mushrooms

They are parasites, decomposing or infecting living trees, eating them from the inside out. They begin fruiting in the beginning of the summer, and will continue into the fall.



To freeze these, saute them in plenty of butter with some herbs like thyme, and salt to taste, but don't brown the mushrooms, you just want to remove water. When putting them in the freezer, make sure to add plenty of butter or fat to the mushrooms since it will help ward off freezer burn.









Rooster of the Woods

Meripilus sumstinei



Grows at the base of dead or dying hardwoods and occasionally grows on stumps. It will fruit again in the same location, so remember the spot for next year.



© Dianna Smith

HEN OF THE WOODS

(also known as MAITAKE,
Grifola frondosa)



It is considered a "choice" edible, meaning that it is especially good eating.

All local polypore mushrooms are edible, but most are not palatable, unless you want to eat cardboard.



Underneath each cap is a pore surface containing numerous tiny pores. There are no gills on the Maitake mushroom... just a pore surface. The pore surface is whitish or light gray in color, and these pores do not bruise when handled or scratched.



- The Black Staining Polypore (*Meripilus sumstinei*) bruises black. Young specimens are edible, though they become too tough to consume with age.









Pheasant Back or Dryad's Saddle

(*Pleurotus ostreatus* and *P. pulmonarius*)





Giant Puffball

Calvatia gigantea





GIANT PUFFBALL

- They're more likely found in meadows and grasslands than in the forest. They are grow on the ground rather than up in trees.
- Harvest in late summer to early fall. Despite their large size this happens quickly. The fruit body will appear in about a week's time.

Young giant puffballs have a white, fleshy interior. They become brown and discolored when past their prime and ready to release spores. They are also not edible at this stage.



Don't eat anything with a brown, black or yellow interior

. One of the largest specimens on record was 59 inches!

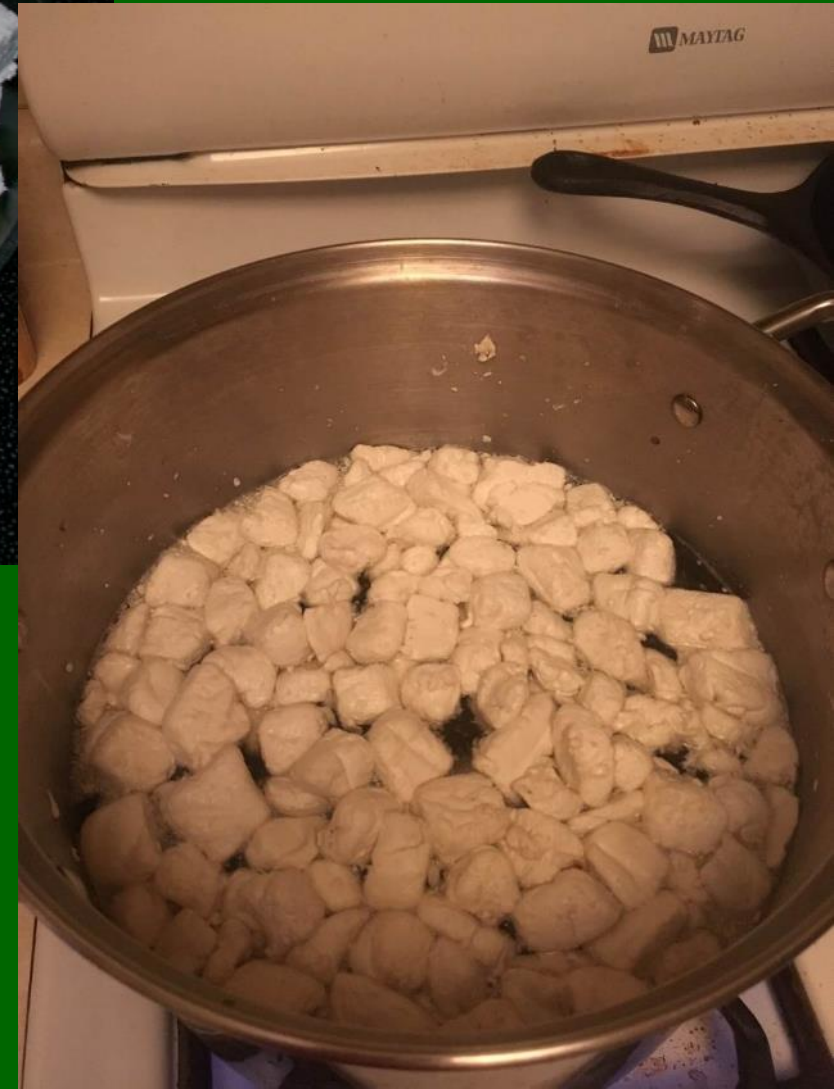


A mature giant puffball contains trillions of spores!



In puffballs, the spores are produced inside the ball. It's the spores that make the puff of smoke through an opening at the top of the ball when the puffball is squeezed.

Prepare diced mushrooms and blanch in soup stock. Drain and freeze for long term storage.



Some say they have no real taste of their own and just absorb the flavors around them like tofu. Others have described their taste as rich, earthy, and nutty.

- The most popular way to eat them is to fry in oil with a batter.
- Sautéed or broiled alone or with other vegetables with a marinade.
- Dice them into smaller pieces and stir fry in place of tofu.
- Use instead of eggplant in any recipe. Giant puffballs are a great replacement for eggplant!
- Remove the top and hollow out the mushroom into a bowl. Cook the hollowed out pieces with some other ingredients and place back into the puffball shell. Wrap the whole thing in foil and bake in the oven, checking on it occasionally to see if it's done.



They are excellent to cook and behave much better than many other mushrooms, mainly because they don't release masses of liquid when you put them in a hot pan. They are perfect to grill and because their flavor is so mild, they are all the better with a good marinade.





OYSTER MUSHROOMS

- A common edible known for its oyster or fan-shaped cap. All oysters have decurrent gills. Decurrent means that the gills are attached to and run directly down the stem.
- Often grow in a shelf-like formation with overlapping clusters.
- Several studies done on animals and in vitro suggest Oyster mushrooms and its extracts may have possible medicinal applications for a wide range of conditions.
- Time of year to collect is late summer into fall. Also, late winter into early spring.
- There is no poisonous lookalike mushrooms to mistake the oyster for, all oyster species are edible.

Phoenix Tail Oyster (*Pleurotus pulmonarius*)



The caps of *Phoenix Oyster* are much paler and smaller than *gray oyster* and develops more of a stem.

- Phoenix Tail oyster mushrooms are a common, edible variety that is both cultivated and found in the wild.
- Phoenix Tail oyster mushrooms favor warmer weather and will grow on almost any hardwood tree.
- Phoenix Tail oyster mushrooms contain amino acids such as thiamin, riboflavin, folic acid, sterols, and carotenoids. They also contain vitamin C, potassium, and iron.
- Their flavor is mild and is suitable to be used as an everyday mushroom being incorporated into soups, stews, salads, pasta, on top of pizza, casseroles. They can also be layered in sandwiches, stir-fried with other vegetables, or sautéed and served as a stand-alone side dish.



Gray Oyster (*Pleurotus ostreatus* and *P. pulmonarius*)









A long night in Columbus

Ohio State showed Saturday night what it's one of the top teams in the nation. The Buckeyes crushed the Huskies in front of more than 100,000 fans at Ohio Stadium. Buckeye running back Mike Walker carried 264 yards to run through during the second quarter, while Husky Anderson Karris Marston and Kasey Williams combine to stop Ohio State speedster Curtis Jackson (top left). Luke McHale, who received a Husky punt, spreaded the Huskies with one of their few bright moments of the game (top right). Nebraska linebacker Michael Taylor they showed during the national anthem (middle). It was the only Husky to do so. Practice Coach Lachy (bottom) coaches (right). It was very unusual during and throughout the game.



Oyster mushrooms with sunchokes



Elm Oyster or Boxelder Mushroom

(*Hypsizygus ulmarius*)



This is not a true oyster at all, but is often mistaken for one. This species has a stem and no decurrent gills. They typically grow on boxelder trees, but also elms.





The only time of year to collect boxelder mushrooms is October and November.





Honey Mushroom (*Armillaria mellea*)



Honey Mushroom (*Armillaria mellea*)

Grows in clusters at the bases of trees or stumps and over buried wood. August–November.

Cap convex, then flattened and centrally depressed; honey to rusty brown colored; texture sticky with black hairs in center. Gills narrow; spacing distant; whitish, becoming darker with age.

Stalk thick; whitish, becoming reddish brown; has ring on upper stalk. Grows in clusters with stalks fused at the base. Spore print white.

Any poisonous look-a-likes??

Deadly galerina (*Galerina marginata*) is smaller with a smooth cap and rusty brown spore print.











Medicinal Mushroom

Honey Mushroom contains the beta D-glucan, Vitamin B groups and 15 amino acids. Due to its intra-cellular beta glucan contents, the honey mushroom extracts helps protect the cell from free radical oxidation damages as well as maintain a healthy immune response.

Reduces symptoms of essential and renal hypertension and of neurasthenia. Used to improve vision and counteract ophthalmia and night blindness, prevent respiratory and digestive tract conditions, increases blood flow to the brain and heart without increasing blood pressure, decreases heart rate, reduces peripheral and coronary vascular resistance.



Velvet-Foot Mushroom (*Flammulina velutipes*)





Turkey-Tail Mushroom

Trametes versicolor



There is another side to wild mushroom hunting, however. The medicinal side! The healing side.

- Pick nice clean specimens with very white pore surfaces. Use scissors to cut off the edges that were attached to the wood. This one is dried, ground, and used as tea or tincture. The tea is fairly pleasant. A tincture can be made using alcohol and water.
- The active compounds in turkey tail mushroom have been found to stimulate and strengthen the actions of the immune system.
- What is certain is that turkey tail can help improve the quality and prognosis of cancer patients.



Artist's Conk

Ganoderma applanatum





LET THE BEAUTY WE LOVE BE WHAT WE DO



THERE ARE
HUNDREDS
OF WAYS
TO KNEEL
AND
KISS
THE GROUND.

RUMI



- Artist's Conk has a cosmopolitan distribution, extends across all or most of the world in appropriate habitats.
- The fruiting bodies are perennial, and may persist for multiple years, increasing in size and forming new layers of pores as they grow.
- A peculiarity of this fungus lies in its use as a drawing medium for artists.
- Used as a flavor enhancer in Asian cuisine. because of its rich mushroom flavor

Artist's conk, made into a medicinal tea or tincture, has long been used in traditional medicines. Studies have shown it contains compounds with potent anti-tumor, antibacterial, immune enhancing properties.

There is anecdotal references of higher primates consuming this fungus for self-medication

In the book [*Gorillas In the Mist*](#) [Dian Fossey](#) writes the following about gorillas eating *Ganoderma applanatum*:

"Still another special food (for the gorillas) is bracket fungus (*Ganoderma applanatum*)... The shelflike projection is difficult to break free, so younger animals often have to wrap their arms and legs awkwardly around a trunk and content themselves by only gnawing at the delicacy. Older animals who succeed in breaking the fungus loose have been observed carrying it several hundred feet from its source, all the while guarding it possessively from more dominant individuals attempts to take it away. Both the scarcity of the fungus and the gorillas' liking of it cause many intragroup squabbles, a number of which are settled by the silverback, who simply takes the item of contention for himself."