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Collecting Grassland Mushrooms for Food



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FOREWORD

This is another in a series of pamphlets on wild fungi. It is designed to help the person with little or no knowledge on the subject distinguish between a few reputedly edible species and others regarded as poisonous. Because of the enormous mushroom flora in Michigan when weather conditions are favorable, it is easy to find a hundred different kinds in one day. There are nearly 2,500 large species in the state.

Morels and boletes, with easily discernible physical characteristics, are discussed in Michigan State University Extension Bulletins E-614, *May Is Morel Month in Michigan* and E-926, *Best of the Boletes*.

Discussing the subjects according to habitat (place of growth) is another method used to group fungi for close study. Those that grow on wood are discussed in *Mushrooms Grow on Stumps*, MSU Extension Bulletin E-924. Bulletin E-925, *Wood Waste Makes Wonderful Mushrooms*, covers those growing in abandoned sawmill or timber decking yards.

Each publication discusses both edible species and those that are not edible, but one bulletin is devoted entirely to toxic mushrooms—E-1080, *Don't Pick Poison*. Because of the persistent number of mushroom poisoning cases, it is hoped that an explanation of the many toxins present in wild mushrooms might encourage caution on the part of those collecting them for food.

This bulletin deals only with wild fungi most apt to be found in open grassy areas such as pastures, meadows, wasteland fields and groomed grassy areas such as lawns and golf courses. The discussion is limited to a few of the more easily recognized edible species and their toxic look-alikes.

INTRODUCTION

Many kinds of wild mushrooms grow in grassy areas, but not all are found in the same habitat. Soil type will make a difference. Barren, sandy fields support some species just as low, wet mucklands produce others. Animal dung in pastures encourages growth of some species as does the fertilizer and commercial plant food applied to lawns and golf courses. Mushrooms will not fruit without moisture, whether from rain or irrigation.

From the multitude of grassland mushrooms, a few edible species have been selected for study among the genera *Agaricus*, *Marasmius*, *Lyophyllum*, *Coprinus* and *Calvatia*. Some toxic fungi from grassland areas are also discussed from the genera *Clitocybe*, *Lepiota*, *Amanita*, *Panaeolus*, *Inocybe* and *Hebeloma*.

These mushroom names will sound foreign to you, but it is necessary to use the Latin name with universal meaning to accurately designate any given mushroom. Just as you (John Doe) have a family name (Doe) and a given name (John), each mushroom has a family (generic) name and a specific (like your given) name, only the order is reversed. In mushroom language, the family (generic) name is capitalized. Mushroom names are always in Latin and are the same for a specific mushroom any place in the world. If you were a mushroom, your name would be Doe john.

BE CAUTIOUS!

1—Avoid Roadside Collecting

Wild mushrooms abound along highway rights-of-way and secondary roads. During a cool, rainy fall season, a carpet of white shaggy manes (*Coprinus comatus*) will fruit along roadsides, particularly in low muckland areas.

Even though the shaggy mane is considered edible, it is advisable **not** to collect any plant for food that grows adjacent to a highway because of the concentration of lead from gasoline car exhaust. Mushrooms concentrate metals. A fatality was recorded in Colorado due to lead poisoning from eating mushrooms gathered on a roadside. Spraying herbicides along roadsides and powerlines adds to the hazard of poisoning when consuming food gathered in such areas.

2—Beware of Strangers

The fruit of the mushroom is picked for food. For a mushroom to fruit, the plant must have food. The plant is a mass of hair-like threads growing in the material—soil, humus, wood, etc.—needed for that specific mushroom. A mushroom cannot manufacture its own food. A desirable environment is also required.

When the environment changes, such as when forested land is cleared for pasture, some woodland species might continue to fruit until their food supply is exhausted. For example, in cleared areas, you might find deadly **Amanitas** which ordinarily fruit in woodland areas. **Therefore, everyone collecting mushrooms for food should be able to recognize and avoid poisonous Amanitas at all stages of growth and in any environment.**

3—Check Spore Color

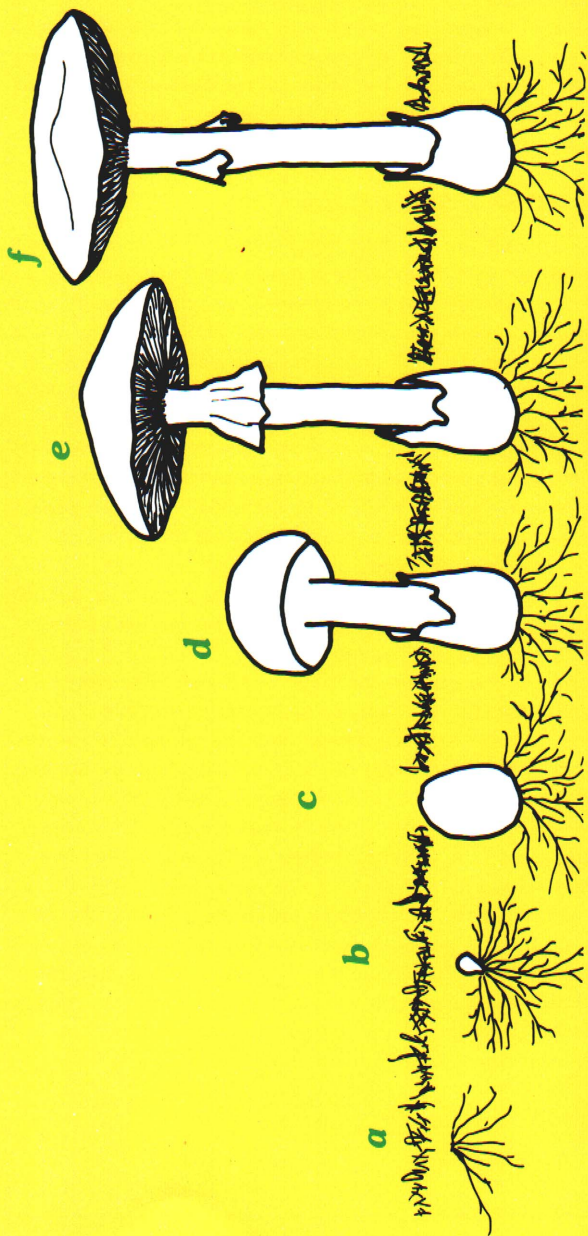
Spores are the microscopic “seeds” of a mushroom and can vary from white through the color spectrum to black. Always check the spore color when identifying a mushroom. Many mushrooms are similar in size, color and shape. The color of spores collected in mass is a constant feature for each species and is helpful in separating the good from the bad.

Check spore color by making a **spore print**. Individual spores are so minute that they are not visible to the naked eye unless they're piled up by the millions to form a mass called a spore print. Spore color is determined by observing the mass of spores gathered.

To make a spore print, you will need a mature mushroom and a piece of white (always use white) paper. In the case of a **gilled** mushroom, cut the cap off the stalk and set the cap on the paper with the gills down—the same direction as they are when the mushroom is growing. It helps to place a bowl over the whole thing so the cap and gills do not dry out and the spores are not disturbed as they fall on the paper. A wrap of wax paper works well in the field. After some time (2 to 12 hours) lift the cap off the paper and observe the color of the mass of spores that fell.

Observe the color when the spore fall is fresh, right after the cap has been removed from the paper. In some cases, the color changes in an older, dried collection. With experience, you will learn to distinguish the spores from staining on the paper due to moisture in the mushroom.

Amanita Anatomy



White Amanita Mushrooms

(*Amanita verna*, *Amanita bisporigera*, *Amanita virosa* and *Amanita phalloides*)
are poisonous at all stages

- a. A spore of a white *Amanita* lands on a supply of food in a suitable environment. It germinates and produces within the soil a vegetative growth called **spawn** or **mycelium**. The mycelium is composed of many fine hair-like threads called **hyphae**.
- b. A concentration of tissue develops in the mycelium which will grow into the button and eventually form the **fruiting body** (mushroom) of the plant.
- c. The egg-shaped button of the *Amanita* is encased in a thick membrane called a **universal veil**.
- d. The developing mushroom pushes a hole through the top of the universal veil membrane, leaving a cup-like structure called a **volva** at the base of the stalk at or just beneath the soil surface. As the stalk grows, another membrane, called a **partial veil**, is evident. It covers the gills beneath the cap, reaching from its attachment around the stalk to its attachment at the cap margin.
- e. When the cushion-shaped cap expands and begins to flatten, the partial veil breaks away at the margin of the cap but remains attached to the stalk. The soft membrane forms a skirt called an **annulus**, or **ring**, on the stalk.

When mature, the cap has expanded to a flat cushion shape. The gills are exposed and the spores, which have developed and ripened on the gills, can drop freely into air currents to be carried off and begin the cycle again. The partial veil hangs as a ring on the stalk, and the universal veil forms the cup or volva at the base of the stalk, which may be hidden beneath the soil surface. These beautiful pure white mushrooms have earned the titles **Angel of Death** and **Destroying Angel**.

- f. When overmature, the edges of the cap turn upward; decomposition discolors the cap surface and the ring on the stalk may disintegrate and fall off.

SOME MICHIGAN MUSHROOMS THAT GROW IN GRASSLANDS

Agaricus campestris— THE PASTURE MUSHROOM

The easiest way to learn what this mushroom looks like is to study the commercial mushroom on the produce counter—*Agaricus bisporus*. Color, size and shape are similar. However, remember that grocery store mushrooms are harvested when young, in the button stage of development. We rarely see them when the cap has expanded and the spores have matured to a deep chocolate brown. A mushroom changes considerably as it grows from its emergency as a “button” to maturity.

Where and what to look for

Search in pastures rich in dung from horses, sheep or cattle. Also look on lawns, golf courses and grassy parkways, especially if well fertilized and watered. Look for white or light-colored mushrooms growing on the ground (terrestrial), singly or in groups or patches.

When to look

Late summer and fall is the normal fruiting period in Michigan, especially after cool wet weather. The last week in August and the first week in September are, on the average, the best seasons in the Upper Peninsula.



Agaricus campestris

Inspect the cap—The cap will be rounded or cushion-shaped when it first appears. As the mushroom matures, the cap expands, becoming almost flat. It averages from 1½ to 3 inches across.

The cap is basically white, but may be tinged brownish as it ages. It has very fine hairs or threads over the surface, which account for the silky appearance when young. With age, these hairs turn dark, giving the cap a brownish tinge. The cap surface may feel dry or faintly moist, but not sticky.

In the button stage, *A. campestris* has a thin white membrane attached to the margin of the cap and to the stalk. This tissue covering the underside of the cap is called a **partial veil**. As the cap grows and expands to a flattened form, the veil tissue tears away at the cap margin but remains attached to the stalk where it usually forms an **annulus or ring**. Some ragged remnants may cling to the cap margin. If you examine the cap margin of a mature specimen from the underside, you will notice a narrow marginal lip extending beyond the end of the gills. The flesh of the cap is thick, white and firm and does not change color when cut or bruised.

The odor and taste are usually mild and nutty.

Inspect the gills—On the underside of the cap, the gills radiate out from the stalk to the margin of the cap. The gills are visible only after the veil tissue breaks away. The gills are crowded and narrow and bright pink. However, they become dark chocolate brown to almost black as the spores (which develop on the sides of the gills) mature. The gills are free—not attached to the stalk—another important characteristic.

Inspect the stalk—The stalk is stuffed (not hollow), 1 to 2 inches long, 3/8 to 5/8 of an inch thick, and the same width from top to bottom (equal) or, in some cases, slightly narrower at the base.

The thin veil remnants adhere to the upper stalk to form a ragged ring (annulus) around the stalk.

The surface of the stalk is white and silky above the annulus. Below the annulus it may turn slightly brownish (like the cap) and covered with appressed fibrils.

There is no universal veil and, therefore, no **cup** or **volva** at the base of the stalk. The top of the stalk seems to fit into a socket in the cap and can be pulled out and easily separated from the cap.

Inspect the spores—The spore color, when collected in a mass, is a dark chocolate brown.

Common Names of *Agaricus campestris*

The common or nickname of mushrooms varies with locality. And, as is true of all common names, a stranger to an area is never quite sure which mushroom bears the name. "Button" mushroom commonly refers to a species but has no meaning whatsoever since all mushrooms are buttons when young just as flowers are buds.

Other common names usually refer to some important characteristic. That is why *A. campestris* is called the meadow mushroom, the pasture mushroom, the pink bottom or panky.

CAUTION!

Do You Have an Amanita?

When *A. campestris* is in the button stage, it could be mistaken for a button of a deadly, poisonous white *Amanita*. The buttons of each are similar in size, color and shape. The gills in each are covered by a veil when young. The cup (or volva) at the base of the *Amanita* stalk is a visible difference because *A. campestris* lacks this characteristic. However, the cup at the base of an *Amanita* is often beneath the soil surface and not visible until you dig the base of the stalk out of the ground. A person who picks mushrooms like daisies might overlook the cup at the base of a stalk.

Ordinarily, white *Amanitas* grow in woodland areas and *A. campestris* grows in grasslands, but exceptions are possible.



Amanita virosa

Until you are positive of the difference between *Agaricus* and *Amanita* species, do not collect buttons. Wait until the veil breaks away from the cap to expose the gills before you consider your identification final. *Agaricus campestris* has pink gills which turn brown, while those of *Amanita* are white and remain white at maturity.

There Are Other Troublemakers

Don't mistake *Lepiota naucinus* for *A. campestris*.

Other mushrooms with bad reputations could be confused with *A. campestris*.

L. naucinus (sometimes called *Leucoagaricus naucinus*) is not deadly poisonous but has a shady reputation. It is a white mushroom, taller and usually broader than *A. campestris* and grows in lawns, pastures and grassy waste areas. Both *A. campestris* and *L. naucinus* have a ring on the stalk.



Lepiota naucinus

A. campestris is a squatty mushroom growing to an average of 1½ to 2 inches tall. *L. naucinus* grows 3 to 5 inches tall.

Remember, the gills of *A. campestris* are pink when young, becoming dark brown. The gills of *L. naucinus* are white when young, becoming a grayish-pink in age.

The spores of *L. naucinus* are white. The spores of *A. campestris* are deep chocolate brown.

Avoid *Entoloma* species

Some species of *Entoloma* might be mistaken for *A. campestris*. Though they are somewhat similarly shaped and pale-colored, *Entoloma* species have no ring on the stalk, and the spores in a mass are pinkish—not chocolate brown as in *A. campestris*. The cap color of the dangerous *Entoloma* species most apt to be confused with *A. campestris* is usually a very pale tan.

***Hebeloma* Species are Not Safe**

No species of *Hebeloma* are considered safe for food. Avoid them all. Though they usually grow in wooded areas, heavy fruitings of *H. sinapizans* may be found scattered among fruiting *A. campestris* in the same area during wet Septembers.

H. sinapizans is larger than *A. campestris*, darker and dingier, and has a viscid (sticky) cap. *A. campestris* has a dry cap.

A mass of *Hebeloma* spores appears earthy brown—not a deep chocolate brown like *A. campestris*.

***Agaricus* in Summary**

Since *A. campestris* is an important edible species—often the only wild mushroom collected for food—we will review its distinguishing characteristics.

- The 1- to 3-inch broad cap is basically white when young. The fine silky hairs or threads usually present on the cap turn brownish in age and may congregate in scales or patches as the cap expands.
- The cap separates from the stalk with a clean break.
- The gills in young specimens are bright pink when the veil breaks away from the cap margin to expose them. As the mushroom matures, the gills turn dark brown. They are not attached to the stalk.
- The spore is dark chocolate brown.
- The 1- to 1½-inch tall stalk is nearly the same color as the cap.
- An annulus forms around the stalk.
- There is no volva or cup at the base of the stalk.

***Other Agaricus* Species**

Nearly 70 species have been named in the *Agaricus* genus. Some grow in woodlands as well as grasslands. In

addition to *A. campestris*, others such as *A. rodmani*, *A. pattersonae*, *A. crocodilinus* and *A. augustus* are regarded as excellent edible species. There are also some suspect *Agaricus* species such as *A. sylvicola* and *A. placomyces*. These are not recommended for food.

Novice mushroom collectors should stick to grassland *A. campestris*.

Puffballs—Large and Small

Puffballs are generally regarded as edible if the flesh is white and has a marshmallow-like consistency. They are usually round or roundish without the cap-gills-stalk structure of traditional mushrooms. The spores are produced within the round mushroom and escape when the outer layer ruptures or disintegrates. The ripening of the spores causes a color change within the puffball from white at young stages to shades of rust, brown or smoky purple.

One of the small edible puffballs, *Lycoperdon marginatum*, grows in open, sandy, wasteland areas. It is only an inch or two in diameter. The most highly prized for food is *Calvatia gigantea*, the puffball that grows to basketball-size or larger, commonly called the giant puffball. *C. cyathiformis* is another large edible puffball found in grassy areas.

Be Cautious When Harvesting

Warning No. 1—The collector who picks anything “round and white” for a puffball can get into trouble. In early stages of development, the poisonous white *Amanita* is “round and white.” When the *Amanita* button is cut in half from top to bottom, the firm-fleshed, embryonic cap and stalk can be discerned. When a puffball is cut in half, the exposed flesh should be white (the edible stage) and homogenous (no outline of cap, gills and stalk). The texture should be the same throughout, similar to that of a marshmallow.

Warning No. 2—If the interior of an edible puffball species has begun to change in color, it is no longer fit for food. The ripening of the spores within the **gleba** (the internal flesh of a puffball) causes a color change from white to yellowish, then to rusty, smoky or purplish brown or black. Insect damage may also cause some color change.

Warning No. 3—A hard-skinned puffball, *Scleroderma citrinum (aurantium)*, grows on or near wood debris and is not edible at any stage. Very early in its

development the internal flesh turns inky blue and becomes almost black in age. It is a hard, warty, thick-skinned puffball that grows 1 to 3 inches in diameter. It is not common in open grassy areas unless it is growing from buried decayed wood.

Always cut a puffball in half from top to bottom to inspect for color, consistency and insect damage.

***Calvatia gigantea*—**

THE GIANT PUFFBALL

The giant puffball is highly publicized because of its size. Anyone who finds one for the first time is sure that he has found a record breaker. Some of the largest on record are 4 and 5 feet in diameter. Basketball-size puffballs are common. Size alone is no measure of maturity. Some are mature when only 4 to 6 inches in diameter; others will reach a foot or more before maturity. The interior color due to ripening of the spores is a more accurate measure of maturity than size alone.

Contrary to myth, it takes 12 to 14 days for a giant puffball to mature. It does not appear magically overnight.

Where and when to look

C. gigantea prefers low, rich soil. It grows in brushy areas as well as in pastures, on lawns and along roadside ditches and drainage areas. Some of the most productive



Calvatia gigantea

areas in the Upper Peninsula of Michigan are wet spots in hayfields.

The greatest number of puffballs the author has witnessed at one time was in a favorite trout stream. There were many giant puffballs growing in the rich river bottom flats. When an unusually heavy cloudburst hit the area, the puffballs floated up from their moorings and down the river when they eventually were trapped by log jams. Several dozen bobbed above some of the jams. *C. gigantea* grows singly or in patches, sometimes in arcs.

Look for giant puffballs in mid- to late summer into fall when moisture is plentiful.

What to look for

C. gigantea is roundish, usually a little wider than high. It is attached to the ground by a single cord-like strand at the base and may vary in diameter from 6 to 20 inches or more.

The surface is smooth with a soft leathery feel like chamois or a kid glove. It is creamy white when young, becoming brownish in age.

There are two layers of skin in the wall. The thin outer layer breaks into patches that turn brownish and shrivel. At maturity the inner wall breaks into pieces that fall away, exposing the **gleba** (internal flesh) of the puffball.

The gleba is white and firm when young. This is the edible stage. As it matures, it turns yellowish olive and finally powdery, rusty brown.

The mature spores appear yellowish olive and are lodged within the deteriorating rusty brown gleba. One author estimated that a single puffball 16 × 12 × 10 inches could produce a trillion spores.

How to prepare and serve

A preferred method of preparation is to slice the mushroom, dip in batter and fry as eggplant is cooked. It may also be diced into one-inch squares to sauté with onions or use in a cream of mushroom soup.

Freeze any surplus for future use. **Always cook the mushroom before freezing it.**

Calvatia cyathiformis

C. cyathiformis is another common, fairly large mushroom considered edible when the flesh is still firm and white.



Calvatia cyathiformis

What to look for

It isn't as large as *C. gigantea*. It varies in diameter from 3 to 7 inches and is usually taller than it is wide, reaching 4 to 8 inches.

The shape is narrower at the lower third and broader in the upper portion. It looks somewhat like a pear standing on the stem end or like a loaf of bread that was baked in a can with the lower part confined to container-size and the upper part bulging over the top. The lower base part is wrinkled from the bottom up to the broadest part of the top section.

The exterior color is whitish at first, becoming tan and then brownish in age.

The surface is smooth when young, breaking into flat scales in age. The flesh is white at first, becoming yellowish, changing to a dingy purple when mature.

Spores are produced only in the upper part of the fruiting body. The stalk section is sterile and retains its cup-like structure after the top has disintegrated.

When and where to look

During wet weather in late summer or fall, look for *C. cyathiformis* in lawns, pastures or grassy fields. It may grow singly, in patches or often in fairy rings or arcs.

***Lycoperdon marginatum*—**

A SMALL WHITE PUFFBALL

Several small puffballs are considered edible. Some grow on wood waste such as *Lycoperdon perlatum* and *L. pyriforme* (described in MSU Extension Bulletin E-925).

The grassland species most often brought in with the question, "Is this edible?" is the small *L. marginatum*. It is usually brought in by someone trying to grow a garden in a barren sand patch. This species is too small to be considered important as food but because it is so common it is good to know it is not poisonous. On several occasions, parents have panicked when their young child, who was learning about his world by eating everything he could get into his mouth, ate some of these small white puffballs. Perhaps they tempt children because they are about the same size and color as a marshmallow. In some cases, the children were unnecessarily tormented by stomach pumping, medication, etc.

When, where and what to look for

L. marginatum grows from midsummer through fall in sandy wastelands, pastures and along roadsides when moisture is plentiful.

It is roundish, $\frac{1}{2}$ to $1\frac{1}{2}$ inches in diameter and usually wider than tall. The surface of *L. marginatum* is white, warty or spiny. The skin breaks into patches and flakes off at maturity. The flesh is white at first, turning dark olive-brown. Though not important as food, it is not poisonous.

***Marasmius oreades*—**

THE FAIRY-RING MUSHROOM

Anyone who has tried to maintain an attractive lawn regards *M. oreades* as a nuisance mushroom. It is the small mushroom that grows singly or in masses in a circle or an arc to sculpture an otherwise perfect lawn carpet of green grass. One day the lawn will be full of them. If it is a dry, hot day they all disappear; but, just as soon as it rains or if you sprinkle the lawn, they appear again—like magic performed by fairies—hence the name fairy-ring mushroom. How often this revival can be repeated is not certain, but the mushrooms eventually disintegrate. As good a way as any to rid a lawn of *M. oreades* is to harvest them for food.

Over 400 species of *Marasmius* have been described, mostly from the tropics. About 150 species grow in North America. Most are small and of no consequence as food. *M. oreades* might be ignored as food if it didn't grow in

such abundance and right at your doorstep. It dries easily and can also be preserved by canning or freezing.

M. oreades fruits abundantly after and during wet weather in the spring, late summer and fall.

M. oreades is most conspicuous in groomed turf areas such as lawns and golf courses. It also grows in pastures, meadows and wasteland fields. During the wet fall season, a pale, malnourished-looking fruiting can usually be found in sandy pine woodlands.

What to look for

First look for a mass of small mushrooms growing from the soil in a circle or arc. When handled, the mushrooms feel tough and pliant.

Inspect the cap—The cap is $\frac{3}{4}$ to 3 inches across. It looks somewhat like a bell with a broad bump (umbo) on top. In the young button stage, the margin of the cap curves inward. As the cap expands to a cushion shape, the bump on top may or may not flatten out. In age, the margin of the cap is often elevated above the center (disc) of the cap.

The color of the cap is most intense in young specimens varying from dull reddish brown, brick or cinnamon to darker, or it may be a pale tan. As the mushroom matures, the color fades to almost white when dry.

The cap surface is smooth to uneven or lumpy. When moist, the margin of the cap is somewhat striate (fine lines of the gills can be seen through the thin flesh of the cap margin—like looking at the teeth of a comb through wax paper).



Courtesy C. Ovrebo

Marasmius oreades

The flesh of the cap is thin at the margin and thicker at the disc. It is pale tan and watery when moist with no distinctive odor or taste.

Inspect the gills—The gills are rather far apart. They are rounded next to the stalk and almost free from the stalk. The color is paler than the cap surface, most often a creamy tan.

Check spore color—The spores are white when collected in mass.

Inspect the stalk—The stalk is 1 to 1½ inches long, slender and about 1/8 inch thick. It is equal in width to smaller at the base. It is tough and pliant, solid or hollow. The color is the same as the cap surface, usually lighter near the top and darker and often woolly near the base. There is no ring or veil on the stalk.

CAUTION!

Avoid Entoloma

Some poisonous mushrooms are easily confused with *M. oreades* because of similar appearance and because they may grow among the *M. oreades* specimens in the same fairy ring.

Avoid any pink-spored species similar in appearance. They could be poisonous *Entoloma* species. *M. oreades* has white spores.

Avoid Clitocybe dealbata

C. dealbata, another toxic mushroom growing in similar places, is about the same size but lighter in color—most often a pale gray-tinged tan. It has no umbo or bump on the top of the cap.

Both *M. oreades* and *C. dealbata* have white spores.

The gills exhibit the most visible difference. Those of *M. oreades* are coarse, dingy colored and quite far apart. They are broadest near the stalk and barely attached to the stalk. The gills of *C. dealbata* are fine, close and narrow with the widest part at the center, narrowing toward the margin of the cap and the stalk. *C. dealbata* is securely attached to the stalk. The gills may even extend down the stalk for a short distance (decurrent).

Avoid Paneolus foenisecii

Avoid all L.B.M.'s (little brown mushrooms) that grow in lawns and grassy areas. Toxic *P. foenisecii*, a small

dark spored mushroom, is common in lawns.

When collecting *M. oreades* for food, examine each one for identity. Do not assume that because they all grow in the same arc or fairy ring that they are necessarily the same type of mushroom.

***Lyophyllum decastes*—**

THE "GRASSY" MUSHROOM

L. decastes is harvested in tremendous quantities in northern Michigan from humus-rich soils at sites of old lumber camps, sawmills or timber decking yards.

They grow where quackgrass is the greenest and where thistles, burdock and other weeds are tallest. They continue to grow even after the mill yard has grown up into brushland and persist as sturdy clusters of firm, large white-spored mushrooms strong enough to force their way up through thick-matted grass or weeds. You are most apt to discover them by stepping on them and then digging through head-high weeds and humus to find the clusters.

L. decastes, sometimes called *Clitocybe multiceps*, is described in detail in Extension Bulletin E-925, *Wood Waste Makes Wonderful Mushrooms*.

***Coprinus comatus*—**

THE SHAGGY MANE

A favorite large, white, fall-fruiting mushroom is the shaggy mane, *Coprinus comatus*, of the inky cap group of mushrooms. It is conspicuous in humus-rich, well-fertilized lawns and parks and in low, rich muckland areas where the grass is mowed, as along highway rights-of-way.

What Does It Look Like?

Once you've identified the shaggy mane you'll have no trouble recognizing it a second time. It is a tall, narrow, basically white mushroom. It grows singly, in dense patches or in clusters if the soil is rich in organic matter.

Try to visualize a shape similar to a hen's egg—the same width, about 2 inches, but stretched to stand 4 to 6 inches tall to resemble a bullet. That is the approximate shape of the cap of *C. comatus* as it pushes up through the soil. The very young buttons are covered with a gray-

ish brown skin that breaks to form large scale-like masses as the cap grows larger. The scales look like ruffled feathers. The cap beneath the dingy scales is white.

When the cap pushes up far enough so the stalk is visible, you can see that the margin of the bullet-shaped cap is snuggled tight against the stalk and held there by a membrane which remains as a ring about midway or lower on the stalk. The stalk grows 6 to 8 inches long. It is white, silky, equal in width, narrow (about $\frac{1}{2}$ inch wide) and hollow. In the button stages, when the stalk is thicker as compared to total height, the bottom may be slightly bulbous with a pointed root-like base.

After the mushroom has grown to its full height, the margin expands a little to give the cap a bell- or skirt-like shape.

When the spores begin to ripen, the broad crowded gills, which are white at first, begin to turn pink but only at the margin of the cap. The pink color turns to black when the spores are ripe. At this time the margin of the cap expands a bit more, turns up slightly, and then turns to liquid. This strange phenomenon continues until the full length of the gill has changed color and matured, the ripe spores have been shed, and the entire cap and gill structure has turned to an inky liquid, leaving only the white stalk standing with a few drippy remnants attached.

There is another way to recognize the shaggy mane. A patch of mature shaggy manes looks like a convention of miniature drum majors with the high, white-feathered hats.



Coprinus comatus

When and Where to Find It

C. comatus is a fall-fruiting mushroom in northern Michigan, usually in October. It likes black, mucky soil. Along the highways where the low, wet, mucky soil has been excavated to make a solid road bed, the shaggy mane grows as thick as daisies. Mill yards, rich in humus and organic matter, make an ideal habitat when there is a lot of moisture, as do lawns and golf courses. *C. comatus* also grows up through unbelievably hard-packed soil.

BE CAUTIOUS!

- Be sure of the identity of the edible species you plan to eat so you avoid the toxic species of *Amanita*, *Entoloma*, *Clitocybe*, *Lepiota*, *Hebeloma* and all the small, dark-spored L.B.M.'s (little brown mushrooms) that abound in grassy areas.
- Always check the color of spores from a spore print made according to the directions on page 3.
- Remember that lead from gasoline car exhaust and chemicals from sprays accumulate along roadways. Spray chemicals and lead are poisonous. A death has been attributed to lead poisoning caused by eating mushrooms gathered on a roadside.

Should You Collect Wild Mushrooms For Food?

1. Not unless you study and learn to positively identify the mushroom you seek and become selective in your collecting.
2. Not unless you assume responsibility for your own safety and well-being. Are you properly dressed? Do you know how to use the compass you carry? Have you overcome any foolish fears you might have had of the "woods" and the creatures that live in it?
3. Not unless you are a responsible citizen who respects "no trespassing," "private property," "no littering," and posted land signs.
4. Certainly not unless you have the same respect for every living plant, bird or animal that shares the mushroom hunting area that you do for yourself as a person.
5. Then, **not unless you are absolutely certain the mushroom is safe to eat.** Collect carefully. (A shallow flat box or basket is best—**never use plastic bags.**) Promptly clean, refrigerate, cook or preserve your collections upon returning home. Unless you intend to eat the mushrooms, don't pick them.
6. Finally, not unless you guard against becoming an "instant" expert, thereby endangering the lives of folks you choose to advise.

FOR YOUR PROTECTION

The ultimate decision whether or not to eat a mushroom is yours. Michigan State University, the Michigan Department of Health, the author and others involved with this publication assume no responsibility for the safety and well-being of any mushroom collector.

Other Extension publications in this series are:

May is Morel Month in Michigan,

Extension Bulletin E-614. (25 cents)

Mushrooms Grow On Stumps,

Extension Bulletin E-924. (75 cents)

Wood Waste Makes Wonderful Mushroom Collecting,

Extension Bulletin E-925. (60 cents)

Best Of The Boletes, Extension Bulletin E-926.

(60 cents)

*Don't Pick Poison! When Gathering Mushrooms for Food
in Michigan,* Extension Bulletin E-1080, (75 cents)

Mushrooms from the Forest Floor,

Extension Bulletin E-1271. (50 cents)

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FOR SALE ONLY.

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