

FUNGI

SURVIVAL GUIDE



FOR CURIOUS SURVIVALISTS

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FUNGI

Fungi make good eating, but **MUST** be positively identified as of an edible kind. There is no room for error. Unlike vegetable plants, on which the 'edibility test' can be used, they must be either identified or left well alone. The deadly kinds do not taste unpleasant and no symptoms may appear until several hours after eating.

Wild fungi are a great delicacy — if you know which ones to pick. Fungi are composed of many thread-like cells which, in the case of ground fungi, form a subterranean web of which only the reproductive part - what we call the fungus - appears above the ground. This edible part appears only at certain times of year.

Most fungi grow directly from the ground — alone, in rings, sometimes in clumps. They consist of a cup- or bowl-shaped cap topping a stem. The underside bears gills of spongy tissue containing spores. The form and color of this tissue is an important clue to identify. A few fungi, such as truffles, grow completely underground - but they are very hard to find. Others grow on the sides of trees and stumps; some are known - from their shape - as bracket fungi, others grow large and singularly.

Food value

Fungi come between meat and vegetables in the nutritional table. They contain more protein than vegetables and, in some cases, more fat.

The better kinds, *Boletus edulis* for example, provide a similar amount of calories to the same weight of vegetables. As for minerals: fungi have more phosphorous than carrots, cauliflowers and spinach, but less calcium. Vitamin B complex is present in tiny amounts in most fungi, vitamin C occurs occasionally and D is present in many in appreciable amounts. *Cantharellus cibarius* contains vitamin A.

The great advantage of fungi is their abundance. At the right time of year, usually summer and autumn, you can quickly gather enough for a meal.

Preparing fungi

Reject suspicious, discolored or maggoty parts, clean, slice and boil. Many bracket fungi are bitter and tough and must be cooked thoroughly. It helps to steep them in cold water first. Tender ground fungi can simply be added to soups and other foods.

Storing fungi

Fungi have high water content and are easily dried. Collect all you can when they are available and add them to your food store. Separate caps from stems and place on rocks in the sun, caps gill- side up. With *Boletus* species, first remove the spongy tissue under the cap. When thoroughly dry, store in airtight containers if possible. Eat raw (soak them in water first to let them swell up) or add to soups and stews.

IDENTIFYING AMANITAS

The poisonous Amanitas - and their particularly deadly species the Death Cap and the Destroying Angel - can be mistaken for edible kinds.

ALWAYS FOLLOW THESE RULES:

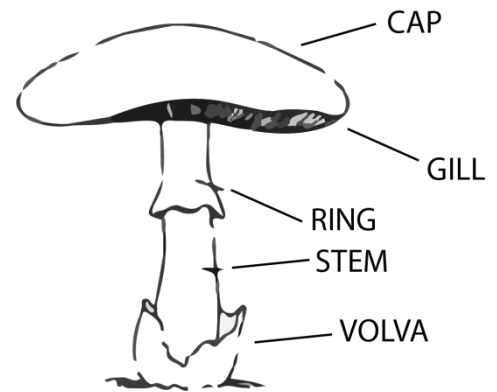
- AVOID any fungi with white gills, a volva (a cup-like appendage at the base of the stem) and stem rings
- AVOID any fungi that are wormy or decomposing
- Unless positively identified – DISCARD

	AMANITA	AGARICUS
SPORES	White	Purplish-brown
CAP AND STEM	Unchanging	Some kinds stain yellow when bruised
CAP	Slimy with loose patches	Always dry, with only a few small scales
MATURE GILLS	White	Greyish-red, pink or chocolate
GILLS	Partly or wholly veiled	Not veiled
SMELL	Potato or radish	Almonds or marzipan
LOCATION	Never in grassy open areas	Under conifers and hardwoods; in grass and gardens

EDIBLE FUNGI

There are no reliable rules for identifying fungi, poisonous or edible. Ignore folk tales to the effect that a fungus is not poisonous once peeled, or that toxic kinds change color when cooked. They do not. Nor does cooking destroy their poisons.

Learn to recognize a small number — those illustrated here — and stick to them. Learn also the Amanita family - they include fungi which can kill you. Then build up your knowledge.



TREE FUNGI

Tree fungi grow off the ground, on the sides of trees and stumps. They are often large and leathery, but are not harmful and are fairly common.

1. **Fistulina hepatica** (Beefsteak Fungus) is often found on oaks. It is reddish above, pinkish below and rough- textured, resembling a large tongue; its red flesh exudes a blood-colored juice. Tough and bitter; young specimens are better. Soak to soften then stew thoroughly. Occurs in autumn.



2. **Polyporus sulphureus** grows to 30-40cm (12-16in) across, a bright orange-yellow fading to yellowish-tan, with spongy, yellowish flesh. On broad- leaved, especially Oak, and evergreen trees from summer on.



3. **Polyporus squamosus** (*Dryad's Saddle*) grows to 60cm (2ft) across, often in clumps, its ochre cap flecked with dark scales to resemble cork and a whitish underside. On broad-leaved trees, especially Elm, Beech and Sycamore, from spring to autumn. Choose young ones and stew them thoroughly.



4. **Pleurotus ostreatus** (Oyster Fungus) grows in clumps, with deep blue-grey shell-shaped caps 6-14cm (2¹/₂-5³/₄in) wide, white gills and white rubbery flesh. On broad-leaved trees for most of the year. Tasty; slice and stew. Also dries well.



5. **Armillaria mellea** (Honey or Bootlace Fungus) has tawny-yellowish brown-flecked caps 3-15cm (VU-6in) across, white gills later speckled with brown, white flesh and bootlace-like 'roots'. On broad-leaved and coniferous trees and stumps from spring to autumn. Slice and stew.



GROUND FUNGI

Ground fungi live in the soil. There are many kinds, some VERY poisonous.

6. **Lycoperdon gigantea** (Giant Puffball) resembles a football, up to 30cm (1ft) across, smooth, white and leathery, yellowing with age and may weigh up to 9kg (20lb). In woods and grassy places from late summer to autumn. Choose young ones with spongy, pure white flesh. Very tasty; simmer or fry.



7. ***Cantharellus cibarius*** (Chanterelle) is apricot-scented, egg yellow, funnel-shaped, 3- 10cm (1¹/₄-4in) across, with pronounced, forking gills. It grows in groups under trees, especially Beech, from summer on. Very tasty; stew for ten minutes. Do NOT confuse with *Cortinarius speciosissimus*.



8. ***Craterellus cornucopioides*** (Horn of Plenty) is horn- or funnel-shaped, with a rough, crinkly, dark brown cap 3-8cm (1¹/₂-3in) across and a smooth, tapering grey stem. In broad-leaved woods, especially Beech, in autumn. Stew well, or dry.



WARNING!

Fungi make excellent eating but should be attempted ONLY if identified with certainty.

Agaricus fungi: AVOID any that stain yellow when cut (see *A. xanthoderma* below). Some young 'buttons' are hard to tell apart and can be confused with the deadly *Amanitas*.

1. ***Agaricus arvensis*** (Horse Mushroom) resembles *A. campestris* but with a cap to 15cm (6in). Young ones have light pink gills, later turning pinkish-brown; in some places as *A. eampestris*. Edible raw or cooked.



2. ***Agaricus augustus*** has a scaly, light brownish cap to 20cm (8in) across, young gills pink later turning dark, and a ringed stem; in clusters in woodland clearings in summer and autumn. Tasty; smells of anise.



3. **Agaricus eampestris** (Field Mushroom) resembles the familiar cultivated kind, with a white cap to 10cm (4in) across, browning slightly in older specimens, and pink gills later turning dark brown; in grassy places in autumn, rarely by trees. Edible raw or cooked.



4. **Agaricus sylvestris** (Wood Mushroom) resembles *A. arvensis* but is found in woodland, often with conifers. Edible raw or cooked.



5. **Agaricus xanthoderma** (Yellow Staining Mushroom) resembles other *Agaricus* species, but shows a yellow stain when bruised and is strongly yellow at the base. It is POISONOUS and smells of carbolic. In both woody and grassy places in summer and autumn. AVOID.



6. **Lepiota procera** (Parasol Mushroom) has a brownish cap, later with darker scales, to 30cm (1ft) across, with creamy-white gills and a slender stem with a double white ring and brown bands. By broad-leaved woodland and in grassy clearings from summer to autumn. It tastes of almonds or Brazil nuts.



7. **Coprinus comatus** (Shaggy Ink Cap) has a cylindrical cap with whitish or pale brownish scales and gills that begin white, turn pinkish and finally dissolve into a black, inky mess. In groups in open grassy areas in summer and autumn. Gather young ones whose gills are still pale. **POISONOUS** if eaten with alcohol.



8. **Tricholoma nudum** (Wood Blewit or Blue Cap) has a lilac-blue cap, later turning reddish-brown and wavy- edged, to 10cm (4in) across, bluish gills and a stocky, fibrous bluish stem. In rings in mixed woodland from autumn to midwinter. Tasty and sweet smelling. Produces an allergic reaction in a few people.



9. **Boletus edulis** (Cep) is brownish with a cap to **20cm (8in)**, a swollen stem and white flesh; in woodland clearings in autumn. All Boletes have a sponge-1 like layer of pores or tubes instead of gills. Many edible species - they dry well - occur around the world. **AVOID** any with pink or red spores unless positively identified. Some are poisonous.



OTHER USES FOR FUNGI

Many bracket fungi make excellent tinder - once lit they will smoulder for hours.

- Razor-strop fungus is so tough that it can be used to sharpen knives, or chopped up for corks, corn plasters and kindling.
- Giant puffball is styptic - it will staunch and soothe bleeding wounds.
- Tree fungi are rich in tannin and can be used in treating burns.

POISONOUS FUNGI

WARNING!

The following are among the worst of the poisonous fungi but there are many others. Do NOT use any fungi you cannot positively identify as a survival food. Some Amanita fungi are among the most deadly of all. They have a cup, or volva, at the base.

1. **Amanita virosa** (Destroying Angel) is wholly white, with a large volva, a scaly stem and a cap to 12cm (5in) across, in woodland in summer and autumn. Sweet- and sickly-smelling and DEADLY poisonous. Young ones may resemble young Agaricus fungi.



2. **Amanita phalloides** (Death Cap) has a greenish-olive cap to 12cm (5in) across, a paler stem, large volva, and white gills and flesh; usually in woodland, especially with Oak or Beech. The MOST DEADLY of all.



3. **Amanita pantherina** (Panther Cap) has a brownish, white-flecked cap to 8cm (3in), white gills and 2-3 hoop- looking rings at the base of the stem; in woodland, especially with Beech. Poisonous, often FATAL.



4. **Amanita muscaria** (Fly Agaric) has a distinctive bright red cap, flecked with white, to 22cm (9in) across. Found in autumn, typically in Pine and Birch woods.



5. **Entoloma sinuatum** (Leaden Entoloma) has a dull greyish-white, deeply convex cap to 15cm (6in) across, yellowish gills turning salmon-pink and firm white flesh smelling of meal, bitter almond and radish; in groups in grassy places and woods, especially with Beech and Oak, in summer and autumn. Poisonous, can be DEADLY. Confusable with an Agaricus, but has no ring on the stem.



6. **Inocybe patouillardii** begins whitish then turns yellowish-brown, with a cap to 7cm (2³Min), often split at the margin, and whitish gills turning olive-brown; stains red when bruised. In broad-leaved woods, especially Beech, in summer and autumn. Lacks a ring on the stem, but when young confusable with an Agaricus. DEADLY poisonous.



7. **Paxillus involutus** has a solid yellow-brown cap with a rolled rim, to 12cm (5in) across, yellow-brown gills and a straight, stout stem. Very common in woodland, especially Birch. DEADLY: do NOT confuse with edible yellowish fungi such as the Chanterelle.



8. **Cortinarius speciosissimus** is reddish-to tawny-brown, with a flatfish cap 2-8cm (PMSWim) across, and rusty-brown gills, in coniferous wood in autumn. Not common but very poisonous. Slightly lighter-colored, **C. orelanus**, also poisonous in broadleaved woodland. Both have a radish-like smell. Do not confuse with the Chanterelle. DEADLY. (See also *Agaricus xanthoderma*, illustrated with edible species)



POISON SYMPTOMS Poisonous fungi produce a variety of symptoms but the following are fairly typical:

Death Cap/Destroying Angel: Symptoms develop slowly, 8-24 hrs after eating: vomiting, diarrhea, excessive thirst, sweating and convulsions. Apparent they recover after one day, then a relapse and, in 90% of cases, death from liver failure in **2-10** days. No known antidote.

Muscarine poisoning: Caused by several fungi. Effects vary, toxins all attack nervous system.

Amanita muscaria produces severe gastro-intestinal disturbance, delirium, vivid hallucinations, uncontrollable twitching and convulsions, followed by coma-like sleep. The victim usually recovers.

Inocybe patouillardii and its relatives produce vertigo, blindness, sweating, low temperature, very dilated pupils, followed, in the worst cases, by delirium and death.