

GOLDEN HARVEST

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One of the best edible wild mushrooms of mid-summer in the eastern United States is the golden chanterelle. It is quite distinctive because of its orange color, graceful trumpet-like shape, matte finish that is never shiny, peppery taste when raw, and fragrance similar to that of apricots. It also happens to have a wonderful taste when cooked and is highly prized in European cuisine.

There are actually several related species sometimes called by that name. *Cantharellus cibarius*, the true “golden chanterelle,” and *Cantharellus lateritius*, often called the “smooth chanterelle” in field guides, are the two most common ones in the East. The two species can usually be distinguished by their visible features. *C. cibarius* typically grows to a stalk height of about 2 to 3 inches with a cap width of up to 3 inches. Its color in this part of the country is yellowish-orange, but elsewhere its color can be more yellowish. *C. lateritius* tends to have a deeper orange color than *C. cibarius*, but this is not readily apparent unless you have specimens of each at hand. *C. lateritius* grows to a typical height of 3 to 4 inches with a cap width of up to 6 inches. Its color is typically apricot-orange. On the West Coast, *C. formosus* is similar to *C. cibarius* but larger.

There are also a few other more-or-less orange species of chanterelle that might be confused with golden chanterelles. *C. odoratus* is smaller, grows in caespitose clusters, and is very fragrant. *C. ignicolor*, *C. lutescens*, and *C. infundibuliformis* are smaller, less fragrant, and their caps often have a hole in the center. *C. minor* is only 1 – 2” tall and is more yellowish.

The easiest way to tell *C. cibarius* from *C. lateritius* is by inspecting the underside of the cap. Both species have fleshy, decurrent ridges that extend all the way from the cap margin to the stalk and then continue part way down it in a smooth curve, so that the mushroom is shaped like the bell of a trumpet. However, whereas *C. lateritius* has shallow, blunt ridges that are not at all gill-like, the ridges on the underside of the cap of *C. cibarius* are narrower and more pronounced¹. Both species characteristically also have smaller cross veins connecting the ridges.

Most of the so-called “golden chanterelles” found in the greater Washington area are actually smooth chanterelles, but the distinction is irrelevant from a culinary point of view because they look and taste the same when cooked. Therefore, throughout this article reference will be made to “golden chanterelles” when in fact *C. lateritius* is the species that is far more likely to be encountered.

There are several non-edible species commonly found in the eastern United States that can sometimes be confused with the golden chanterelle. However, these mushrooms can easily be distinguished from chanterelles by their gills, smell, growth habit, form, and

¹ See Lincoff, Gary H., “National Audubon Society Field Guide to North American Mushrooms,” published by Alfred A. Knopf, copyright 1981 by Borzoi Books, and 1998 by Chanticleer Press, Inc.

size. One such species is commonly called the jack o' lantern (because of its pumpkin-orange color and its gills that actually glow in the dark when fresh). Its taxonomic name is *Omphalotus illudens* (sometimes called *O. olearius*). It is quite toxic when eaten and can cause severe gastrointestinal upset including vomiting and diarrhea. It has a smooth and shiny (not matte) cap cuticle that is sometimes faintly streaked with brownish fibers which can make it appear somewhat darker. It grows in cespitose clusters on wood of trees, roots or stumps, often encircling them; but if it is growing from buried wood it may appear to be growing out of the ground. Inspection of the underside of the cap is an easy way to tell a jack o' lantern from a golden chanterelle. The gills of the jack o' lantern are closely spaced, thin and sharp-edged, never forked, and can easily be pulled away from the underside of the cap. In contrast, the ridges on the underside of a golden chanterelle are shallow, blunt, can not be easily pulled off, and are sometimes forked or interconnected. While the jack o' lantern has a somewhat fruity smell, it is not the distinctive apricot smell of the golden chanterelle. It also tends to be much larger than the chanterelle when mature.

Another orange-colored look-alike species is *Hygrophoropsis aurantiaca*, the "false chanterelle." It grows on well-rotted conifer wood, does not have the characteristic apricot smell of the golden chanterelle, has a stalk that thickens toward the base and is often somewhat sinuous, and is generally only a couple of inches tall. Whereas the cap cuticle of the golden chanterelle has a smooth matte finish, that of the false chanterelle has a somewhat rougher and almost wooly appearance. The false chanterelle has true decurrent gills, many of which are forked, and they are more prominent than the ridges on the underside of the caps of chanterelles. Since the edibility/toxicity of the false chanterelle is uncertain, it should not be eaten.

Golden chanterelles will fruit abundantly given the proper combination of moisture, temperature and habitat. They are easy to spot on the forest floor in summer because of their bright orange color. Spotting them at the end of the season can be more difficult as fall foliage begins to litter the forest floor. They grow directly from the ground, not from wood, usually individually scattered in patches that look as though they had been casually strewn there by someone; but sometimes they will sprout in cespitose clumps of three or four. They may appear to follow lines of mycelium but do not grow in fairy rings. While they may encircle trees, they do not emerge from the base of the trunk or the roots.

Chanterelles usually grow in wash or drainage areas, flood plains, swales, gullies, and ravines. The best places to look for them are along stream banks or in ravines. They also can grow along paths and on hillsides or slopes near streams. Sometimes they are more plentiful on slopes above streams, and other times they are more plentiful along flood plains. They can sometimes be found at sites that can hold water even when it has not rained for a week, such as flood plains. Healthy looking paw paws are one indication of such places.

Chanterelles can grow in a wide variety of soils from sandy loam to clay with little undergrowth, but they grow best in well-drained, somewhat acid soils with low

nitrogen content. They are usually found in soils which are somewhat pliable and those that can hold some moisture.

More plentiful crops of chanterelles will occur in mid-succession to late-succession forests populated by hardwoods such as oaks, beeches, hickories, and tulip poplars; conifers such as pines; and shade-tolerant plants. Many of these trees will be 10 to 40 or more years of age. Chanterelles are believed to be mycorrhizal. While no one knows for sure which trees they associate with, oaks seem to be the best bet. However, beech trees are typically also growing in the vicinity of *C. lateritius*, and *C. cibarius* is more likely to be found in woods with pine trees.

Other mushrooms sharing the same habitat and fruiting times as golden chanterelles are *Meripilus sumstinei*, the black staining polypore; *Gyroporus castaneus*, the chestnut bolete; *Lactarius volemus*, *L. corrugis*, and related “milky beefsteak” mushrooms; and various coral fungi, especially species of *Sparassis* and *Thelephora*. If you find any of these mushrooms in hot, muggy weather and find lots of mossy ground nearby, you should take note of that location as a good prospect for golden chanterelles.

The amount of humidity, rainfall, and sunlight are important factors of chanterelle growth. In order for the fungus to grow, the mycelium needs moisture over an extended period. Moisture is crucial for an abundant fruiting, even more so than for morels. They like good thunderstorms and hot, muggy weather. Fruiting sometimes occurs two or three days after rainfall; at other times it may seem to actually occur during the rain. After picking chanterelles in a particular area, if it rains again, you can often go back to the same area and pick them again.

In this part of the country golden chanterelles can begin to fruit as early as the first of June and can last beyond September, but most often they fruit from late June to the end of August. The peak fruiting season occurs during the hottest and most humid part of the year from mid-July to early August. Geographical factors such as elevation and latitude influence the time of fruiting. Chanterelles usually begin to fruit in the greater Washington area a few days before fruiting in higher or more northerly locations.

Fruiting usually occurs at approximately the same sites and times each year, but it can be delayed at specific sites during periods of drought. Since summer rain is often associated with thunderstorms, which can be quite localized in small cells, some spots in a forest can receive surprisingly different amounts of rainfall from others quite nearby. Therefore, chanterelle spots can provide good yields in years with abundant rain, but there may be little or no fruiting in those same spots during major droughts.

Every two or three out of ten years or so, we get a “great year” in which both the abundance and size of golden chanterelles are remarkably larger than usual, 1994 and 1996 were such years for harvesting of chanterelles in the East, and 2004 and 2005 were also good but not truly great. During these great years, you can easily find basket upon basket of chanterelles including many of excellent quality that stand 6” tall or more. Why this happens is not clear. It does seem to require lots of hot, muggy weather, but

that alone is not enough to do the trick. A person who has some experience at finding chanterelles might easily find ten to fifteen pounds in a single year.

To learn how to find golden chanterelles, begin by looking in oak/beech woods in places such as swales, gullies and ravines or along ridges or stream banks. If chanterelles are out, they will be easy to spot because of their bright orange color and habit of growing in large patches. As you gain more experience at finding them, the better the image will be in your mind and the better you will be at spotting them. Driving your car along roads in a forest will result in spotting some patches of chanterelles. Look for their bright yellowish-orange color. Walk a short distance into the woods where you see this color. Sometimes it will be leaves, but other times it will be a patch of chanterelles. If it is chanterelles, hunt for more of them in this same area.

Once you've learned how to recognize the right habitat and conditions for the fruiting of chanterelles, you're likely to start finding them in quantity as you gain in experience and spend more time hunting for them. In any event, sooner or later you are likely to be surprised at how many chanterelles you can find.

There has not been much success in cultivating chanterelles because they are mycorrhizal. Therefore, any chanterelles sold in the supermarket have been harvested in the wild. The US Forest Service and the Oregon Mycological Society conducted a pioneer study to investigate the impact of intensive harvesting of chanterelles on future chanterelle productivity. All the facts of the Oregon Cantharellus project are not in yet, but early results of the study seem to indicate that the heavy commercial harvesting of chanterelles in the Pacific Northwest has no major effect on future yields. The declines in harvesting quantities at the time the study began were most likely caused by a three-year drought and by pollution caused by coal burning plants that emit sulfur dioxide and nitrogen emissions. The emissions kill the trees; and since the mushrooms are dependent on the trees, mushroom production also goes down².

Chanterelles are popular and choice edibles. Because of their carrot-like flavor, they can be prepared in many dishes with celery and onions. The French like to cook them with poultry or eggs; Germans like them with potatoes and bacon.

Golden chanterelles keep very well when frozen, but it is important to blanch or pre-cook them first to stop enzymatic activity. After cooling them, put them and their juice in heavy duty plastic bags or containers; then freeze them for future use. They are also good for canning. Dehydrated golden chanterelles have decent flavor when reconstituted, but they remain tough unless ground up. However, they can be steeped in vodka or brandy to make an interesting liqueur.

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² See USDA Forest Service General Technical report PNW-GTR-371, "Managing Forest Ecosystems to Conserve Fungus Diversity and Sustain Wild Mushroom Harvests," published, May 1996.