

SDSU Extension

Having Fun With Fungi

BY DAVID F. GRAPER
SDSU Extension

Spring is a time when many intrepid mushroom hunters head out to their secret spots in search of mushrooms, particularly the highly prized morels. Morel mushrooms are especially desirable for their delicious taste and also because they are relatively rare, at least in the prairie where we live.

Morel mushrooms prefer to grow in hardwood forests, usually around the stumps of old dead trees, especially American elm. Here in South Dakota, they may be found along the Missouri and Big Sioux rivers as well. Since we don't have many hardwood forests and most of the elms are long gone, finding morels can be pretty challenging. If someone does find some, they will probably keep their location a secret, kind of like that favorite fishing hole or that productive patch of wild asparagus.

HOW TO IDENTIFY A MOREL FROM OTHER MUSHROOMS

Morels are only found for a few weeks in the spring of the year, usually after a good soaking rain. They can be found by the dozens in a good spot, essentially growing up overnight. They typically grow about 2 to 5 inches tall and are about 1 to 2 inches in diameter. The brown or gray caps have a distinctive wavy, brain-like appearance. If you cut one in half from top to bottom it should be completely hollow inside.

If all of these characteristics match up with what you find, then you can be pretty sure that you have morels. But, if the mushrooms you find are filled with feathery membranes inside or you find something that sort of looks like a morel but you don't find it until mid-summer or fall, it is not a morel.

Morels are considered to be one of the "fool-proof-four" of wild mushrooms since the identifying characteristics are quite straightforward.

SHAGGY MANE

Another mushroom that is easily identified and also one of the fool-proof-four are the Shaggy Mane mushrooms. They are common in lawns, growing to 6 inches in height



IMAGE: METRO GRAPHICS

and up to 2 inches in diameter. The surface of the caps look "shaggy" because they have scales of tissue that hang off the side. The caps are densely filled with gills that start out white but later turn gray, then to black as they age. Shaggy mane mushrooms will appear in small, somewhat loosely spaced clusters.

Inky caps are smaller mushrooms and even more common in lawns, again around the stumps of old trees or even close to where a stump was ground out. The fungus feeds on the decaying roots beneath the soil. These too will pop up overnight following a good rain. These emerge in clusters of tightly bunched small mushrooms about 1 inch in diameter in groups 3 to 6 inches around.

Initially the caps are white but later turn tan to light brown. Beneath the caps are gills that start out white but later turn gray and eventually black. The name "inky cap" refers to the dark color of the gills and that after a few days these patches of mushrooms

turn into an inky-black mass of desiccated mushrooms.

The shaggy manes are considered to be quite edible but should be harvested and eaten while they are young and the gills are still white. If you harvest some, it is best to eat them right away because you cannot store them for long or they will deteriorate into the same inky mess they become in your lawn. The inky caps can also be eaten but with caution. One species can cause poisoning symptoms if eaten within 24 hours of consuming alcohol. So it is best to probably stick with the much larger shaggy manes.

Most people consider inky caps a real eye-sore in their lawn leading to lots of questions on how to get rid of them. Since the mycelium or "body" of the mushroom is actually beneath the soil, growing through and feeding on the decaying old roots and stumps of dead trees, getting rid of them permanently is no easy task. It would likely mean a large-scale excavation process to get out all of the old wood and even then they might come back for a year or two. The best thing to do is use a stiff rake to get them out of the lawn and dispose of them.

PUFFBALLS AND CHICKEN-OF-THE-WOODS

The other two mushrooms considered to be members of the fool-proof-four are the puffballs and chicken-of-the-woods mushrooms.

Chicken-of-the-woods is a shelf-type mushroom that

grows on the sides of trees, usually mid-summer to fall. It is bright yellow to orange and has pores on the undersides of the shelves instead of gills like the shaggy manes have.

Try to harvest this mushroom when it is young, brightly colored and has a soft texture. As it ages the color pales and the mushroom develops a tough texture. Some people say that it does taste like chicken when cooked.

The fourth mushroom is the puffball. This mushroom is also fairly common mid-summer to fall. You may find them growing in your lawn or shelterbelt. They can range in size from that of a golf ball to a basketball. These are completely white inside and out when they first grow but will turn tan and eventually brown as they age.

Harvest them while they are still white. Peel off the outer layer, then slice up the inner "meat." The texture of these is kind of like eggplant, and like eggplant, it picks up the flavor of what it is cooked with. When fully mature and dried out puffballs develop a hole near the top. If you kick them at this stage you will see clouds of spores fly out.

WHEN IN DOUBT, THROW OUT

Even though we say these are the fool-proof four, one should always be careful and follow some of the old sayings like: "when in doubt, throw it out" or "there are old mushroom hunters; there are bold mushroom hunters; but there are no old, bold mushroom hunters."

Wild mushrooms can certainly be delicious but there also those that are considered non-edible because of texture

or flavor and then there are those that are mildly poisonous to deadly.

Never eat anything that you are not sure of. Even if you are sure, but have not eaten a particular mushroom before, start with a small amount and see how it affects you. You might just be allergic or have a reaction to a particular species, just as some people have various food allergies.

But what if you do not live near a forest or have time to go hunting for mushrooms? Maybe you really love eating mushrooms and want something more than the basic white button mushrooms or portabellas that you may find in your local grocery store. Maybe growing some of your own would be an interesting project to try and yield some fresh and delicious mushrooms to add to your favorite recipes.

SDSU RESEARCH INTO GROWING MUSHROOMS

Casey Snyder, an undergraduate Horticulture student, is conducting a research project on growing a few saprophytic (wood consuming) mushrooms. Fresh gourmet mushrooms are rare in the United States and are a highly prized commodity in the culinary world.

Among the mushrooms considered gourmet, Shiitake and Oyster are the most commercially grown. Snyder's project focuses on these two species of mushroom based on commonality, consumer demand, and ease of growth.

The preferred method used for growing Shiitake and Oyster mushrooms is to collect and then inoculate manage-

ably sized wood logs, typically 4 to 6 inches in diameter, with mushroom mycelial spawn.

Logs are inoculated by drilling holes in a diamond pattern using a 7/16th inch drill bit, filling open holes with prepared spawn, and waxing over exposed wood to seal in the spawn and moisture. Some species of mushrooms have spawn that is growing on dowels that are pounded into the logs.

Prepared logs are then handled gently and laid in shelterbelts, stacked in sheds, or propped against railings in designated growing sites. These sites should be shaded and cool, but still allow for air movement and ventilation to prevent mold. Logs inoculated in the spring, may fruit in late summer or fall but are more likely to fruit the next spring, then again in the fall. Fruiting may continue in the spring then again in the fall for 3 to 5 years but is generally best in years 2 to 3. The duration of fruiting depends on temperature and humidity and the condition of the logs.

There are many different methods of creating mycelia spawn from mushroom spores. Casey is using a commercially available sawdust spawn that is typically more economical than some other types of spawn. The inoculated logs will be weighed and sprinkled with water when humidity is low. The logs are very low maintenance between inoculation and harvest as the mycelium needs time to establish in the log before fruiting. During this time the mycelium is consuming nutrients and starches inside the logs and ultimately preparing itself for reproduction. This is referred to as the incubation stage of mushroom production. The edible mushrooms that are harvested and consumed are the product of this process.

This project aims to discover profitability and practicality of cultivating mushrooms in South Dakota. About 1.7 million acres or 3 percent of South Dakota's total land area is forest land. Many residents of the state have access to woodland areas, including wood lots and shelterbelts. Rural residents often plant trees that are recommended by South Dakota State Extension and Conservation specialists. There are several programs available through the South Dakota Game, Fish, & Parks, as well as the Department of Natural Resources and the Conservation & Forestry Department of South Dakota, that pay landowners to establish woody habitat for many wildlife species, including nongame wildlife. The State recommends a number of trees to plant in shelterbelts, including: Bur Oak, Crabapple, Black Hills Spruce, Cottonwood, Green Ash and many others. While most of the

■ FUNGI,
Page 12

Drive It Home
2007 Chevy Silverado K2500 HD 4x4 6.0L Auto Full Power, Remote Start, Right Side Damage Only
Call Tony Now!!! 665-3720 \$6,900⁰⁰
tony ellis Auto Sales
605-665-3720 • Yankton, SD

RTEC Sets Dates for Welding, CTE and 'Just for Fun' Classes!

AWS Certification/Upgrade Welding Classes:
Applications are currently being accepted for RTEC's AWS Certification/Upgrade Welding course set to begin on **July 14, 2015**. It will be a 48-hour night class held from 4-8 p.m. on Tuesdays and Thursdays through Aug. 20, 2015. Cost is \$1,400 plus tax. Contact RTEC to enroll today.

Welding Basics Class:
The Welding Basics class scheduled to begin **July 13, 2015**, is filling up fast. Applications are being accepted for this introductory 48-hour course which will be held from 4-8 p.m. on Mondays and Wednesdays through Aug. 19, 2015. Cost is \$1,400 plus tax. Contact RTEC at (605) 668-5700 for more information today!

Coiled Creations "Just for Fun" Class:
Learn how to create a trendy, yet practical bowl/container that you can use to display small keepsakes, hold keys, beautify a flower pot or to organize items that might otherwise lead to clutter. Class runs from 5:30-7 p.m. on Monday, **July 13, 2015**. Cost is \$26.50. Bring a bowl/container that is 8-10 inches in diameter to be used to create the shape. Modge podge, rope and brushes provided.

Jute-iful Baskets "Just for Fun" Class:
Have you been searching for the perfect decorative basket to organize things in your kitchen, bathroom, bedroom or den? Can't find the right style, size or color? Create your own during this Jute-iful Baskets class at RTEC. It will run from 5:30-8 p.m. on Thursday, **July 16, 2015**. Bring a scissors and either yarn or crochet thread in the accent color of your choice. Cost is \$26.50. Sign up today!

Friday CTE Academy - Computer Aided Drafting (CAD):
Students enrolled in grades 11 & 12 at Avon, Bon Homme, Gayville-Volin and Irene-Wakonda school districts for the Fall 2015 semester are invited to participate in the Friday Career and Technical Education (CTE) Academy CAD Solidworks class. It will be held on Fridays at RTEC from 10 a.m. to 1 p.m. Completers receive high school credit and may be eligible for credit from Mitchell Technical Institute, if approved. Contact RTEC for complete details!

Friday CTE Academy - Welding:
Students enrolled in grades 11 & 12 at Avon, Bon Homme, Gayville-Volin and Irene-Wakonda school districts for the Fall 2015 semester are invited to participate in this Friday Career and Technical Education (CTE) Academy welding class. It will be held on Fridays at RTEC from 1:30-4:30 p.m. Completers receive high school credit and are eligible for 1.5 credits from Mitchell Technical Institute.

Please contact RTEC for more information today!

RTEC, Inc.
1200 W. 21st St.
Yankton, SD 57078
(605) 668-5700
www.rtecedu.org
Like RTEC on Facebook!

LOCATION LOCATION LOCATION

1.19 Acres With Building
SD Highway 50, Vermillion, SD
AT AUCTION
Tuesday Evening, July 7th 6:30 p.m.

Located: 905 W SD Highway 50, Vermillion, SD; (1/4-mile East of Polaris)
This property has an over 2,200 square foot building built in 1972 and sitting on 1.19 acres. This facility has a large open area plus 3 smaller rooms, coffee area, utility room, 2 baths, hooked to rural water system, natural gas furnace, central air, new shingles (approx 4 yr ago), along with a fully enclosed back yard and chain link fence. There is also plenty of parking. Currently zoned "ag", but highly probable that the property could be rezoned into commercial depending on the intended use: retail trade, restaurant, motor vehicle sales, personal service, farm store, repair shop, church, wholesale trade, plus many more. It was most recently used as a daycare. Highway frontage properties rarely come up for sale. If you are looking for a high-visibility location for your business, this is it! For full permitted uses, please call the auction company.

LEGAL: The North 205ft of the South 248ft of the East 246ft of the SE1/4, SE1/4 Sec 11-92-52, Clay County, SD. Taxes are \$3253.14.

TERMS: Absolute auction at \$75,000 or above. \$15,000 non-refundable down payment the day of auction with the balance due on closing. Title insurance and closing costs split 50/50 between buyer and seller. Clay County Title Company, closing agent. Closing and possession August 7th. Taxes prorated to the day of closing. Auctioneer's are agents for the seller.

JOE LOGUE, Owner

GIRARD AUCTION & LAND BROKERS, INC.
(605) 267-2421
Toll Free: 1-866-531-6186

Marv Girard, BA #12399;
Ken Girard, CAI, AARE Broker #10183;
Mike Girard, CAI, BA #13549;
Mike Manning, BA #11605
Scott Moore Auctioneer

www.GirardAuction.com