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A Fun Guy



For Eric Osborne, growing mushrooms is about both form and fungus

By Shawndra Miller

»Inside a low-slung building south of Paoli, Eric Osborne's 5-year-old mushrooming enterprise teems with fungal life. Each room of Magnificent Mushrooms supports a different phase in the lifespan of a mushroom. The fruiting chambers are set to the exact daytime/nighttime temperatures and humidity levels preferred by the lion's mane, shiitake, reishi and oyster mushrooms sprouting from blocks shelved there. At the other end of the building, a laboratory equipped with a flow hood keeps contaminants from infecting newly cloned specimens.

But of all the rooms in his indoor mushroom operation, Osborne's favorite is what comes between the fruiting chambers and the lab. It's called the "inoculation room." Here, resting in plastic bags lined up on metal shelving, grow filaments that will produce the gourmet mushrooms he distributes to area restaurants.

"This is the neural network of the mushroom," he says, touching one of the plump bags containing a mass of blurry whitish material

growing through chocolate-brown grain. The grain will soon be shot through with mushroom mycelium.

Mycelium is the part of fungi that often goes unnoticed in its natural habitat, because it spreads underground or inside the growing medium, such as rotting wood. But these threads are what precedes and supports the fruiting body or mushroom. Osborne notes that one cubic inch of mycelium contains threads that would stretch for three miles if laid end to end.



http://farm-indiana.com/wp-content/uploads/sites/5/2015/04/MushroomsIMG_5754.pr

Eric Osborne

Because of the way this material can transmit chemical information, mycelium is comparable to a brain. “It’s also the digestive and sensory organs of the mushroom,” he adds. “I feel very close to my babies here.”

“Babies” might sound like an odd choice of words, but it’s no mere metaphor for Osborne, who’s been cultivating mushrooms for 10 years, commercially for the last five.

Cloning his stock allows him to continue working with the same organism over time.

“I’ve been eating and living with this same organism for five years,” he explains.

“Mushrooms are more animal than plant. They really become like family.

“I very much hope and feel strongly that these are going to be lifelong companions.”

Osborne didn’t start out as a mushroom aficionado. Raised in Kentucky, in his younger years he had little use for fungi, beyond kicking puffball mushrooms to release their

dusty spores. (“Mushrooms: They’re not just for kicking anymore,” quips one of his presentations.)

Those eminently kickable puffballs are among the many edible wild mushrooms he now hunts in the southern Indiana woods he calls home. As a state-designated wild mushroom expert, Osborne is one of the few who can legally take such finds to market.

That is, until now. On this March Saturday, he’s about to pilot a certification class for morel hunters. “As a service to the health department,” he says, “we’re helping people get certified to sell morels, so that we can distribute them nationwide.”

The need for a certification program arose when federal standards for mushroom sales tightened in 2014. Indiana already had a rule allowing only state-recognized experts to sell wild-gathered mushrooms, but there was no standard for that designation.

So Osborne, together with Hoosier Mushroom Society founder Steve Russell, developed a certification course for morels to fill that gap. Working in partnership with the Indiana State Board of Health and Purdue Extension, they created a course now being offered in several venues statewide. They also will launch a program covering later-season wild mushrooms, such as oysters, black trumpets and maitake. Certification is valid for a three-year period.

Indiana is a leader in setting up this type of curriculum, according to Russell. “I wouldn’t say we’re the first, but we’re definitely a progressive state in this area,” he says. “There are very few states that have certification programs.”

The duo’s goal is to facilitate a safe market for wild mushrooms, with potentially far-reaching economic benefit.

It’s fitting that Osborne is preparing people to legally sell such wares, because his passion for all things mycological started with a walk through the forest.

“Initially it was just about sourcing wild food – this extremely high-value wild food,” he recalls when asked what started him down this path.

Then he read “Mycelium Running,” a seminal work by renowned mycologist Paul Stamets. Osborne learned that fungi offer much more than a free source of nutrition and deliciousness. The fungal kingdom is said to be capable of boosting both planetary and personal health, though many have been slow to catch on to this idea. Raised on fears of eating something deadly, many people avoid all mushrooms.

But Osborne’s out to change that. He’s positively evangelical when he begins to share the much-maligned mushroom’s power as food and medicine, as environmental remediator and as therapeutic agent.

He reports that several studies are under way at Ivy League universities to explore psychoactive mushrooms’ potential for addressing issues like post-traumatic stress disorder and addiction. Closer to home, Assumption High School in Kentucky is working with a food service company to place mushroom grow kits in the classroom and then use the harvest in the lunchroom. A former teacher himself, Osborne has developed lesson plans to accompany classroom-gearred grow kits.

Then there’s mycoremediation, a relatively new field suggesting tremendous environmental gains. “One of the biggest things to come along is environmental rehabilitation with fungi,” he says. “They’re just far underestimated in their capacity to detoxify sites, clean up the environment and build soil.” Many fungi have the capacity to eat pollutants, he says, cleaning both soil and water in the process.

Not only that, but many culinary mushrooms can be raised commercially on waste products and byproducts that otherwise would need disposal. “We’re looking at going around the country and locating different waste streams,”

he notes. "There's a huge variety of agricultural waste in Indiana that could be used for mushroom cultivation."

Though he has his hands in many of these endeavors, the primary mission of his enterprise is to increase appreciation and consumption of edible mushrooms.

A vegetarian, Osborne is drawn to this food source as a low-impact protein option possessing "umami," a succulent flavor comparable to meat. "I believe we can help balance our meat consumption as a culture," he says.

His mushroom farm now supplies cultivators all over the world with supplies and kits, while also delivering 150 pounds of edible mushrooms each week to restaurants in Bloomington and Louisville. In addition to classes geared toward mushroom hunters, he leads workshops on home cultivation, showing people how to inoculate logs to produce their own crop of shiitakes.

Currently employing one full-time and one part-time helper, Osborne is on the cusp of a major expansion. Late last year he secured funding from key investors to import high-volume equipment from China.

Doing business internationally, he's learned, requires mountains of red tape and a lot of patience. "It's moved much slower than I expected," he admits. But soon an industrial-sized autoclave, 20-by-6-feet in size, will allow him to scale up his operation. He plans to grow gradually, eventually adding enough staff to be able to sell up to a thousand pounds of mushrooms each week.

Already his production rate is high, considering the inputs. Within two weeks of cloning, the Petri dish specimens are ready to be divided and added to sterilized grain. A short time later, these bags of "grain spawn" go into a second generation of grain. So in a very short time, one Petri plate creates a 200 percent increase in "mycelial mass," says Osborne.

“Within six weeks of having (the culture) on a plate, I can have it on a dinner plate,” he says, joking that he might inaugurate a new motto: “From plate to plate in six weeks!”

And harvest doesn’t end at the six-week mark. Each block of shiitakes produces up to four “flushes” — yielding about two pounds over the course of two months before the material is returned to compost. Osborne raises two shiitake varieties: Goliath and Old Faithful. The latter is fuzzy enough to look mammalian. Elegantly branching oysters and shaggy lion’s mane are among his other offerings.

But the farm stretches beyond the walls of this building; Osborne also grows winecaps in wood chips outdoors and keeps neat stacks of logs inoculated with shiitake spawn. Also, expanding his business into a nationwide distribution hub for Indiana’s wild morels and other wild mushrooms is his latest goal.

It’s an objective that fits hand in glove with the new certification program. He envisions regional franchises that would sell morels and other fungal delicacies under a common label.

As attendees of his certification class begin to fill the small front room where folding chairs face a white board, he dims the lights and revs up his laptop. Though the event wasn’t highly advertised, it’s soon standing room only. A group of 25 or so mushroom pickers settles in as he starts the slide show.

He scrolls through the slides, inviting input and discussion. The material covers morels’ habits and habitat; variants and impostors; and proper cleaning and transport.

One drawback: There’s no field work in this program; assembling everyone in the right place and right time for a morel flush isn’t practical. A written test with photographic identification closes out the certification process. “I cannot overstate how careful we have to be when picking wild mushrooms,” he tells the group, wrapping up.

Through this endeavor, Osborne hopes to nurture a network of morel hunters who can rely on his enterprise to market and promote

the product. Today's course is a start. He foresees the process evolving through continued collaboration. The state mandates solid record-keeping for traceability, which he sees as the trickiest part. Also to be developed are clear guidelines for chefs and other purchasers, describing proper storage and preparation of mushrooms.

Turning wild mushrooms into a state-branded food product is worth this investment of time and care to get it right, he says. "We're really talking millions of dollars on the forest floor that rot away every year."

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