

By Lisa B. Pot

Mission: Mushroom Impossible

Bill and Micky Wylie produce grow bags for mushroom growers but have their own mission: to cultivate the elusive black morel



The shelves at Wylie Mycologicals near Owen Sound are filled with grow bags on their spawn run, where the spawn turn into mycelium which eventually fill the sawdust and grain substrate they feed on. Bill and Micky own and operate the mushroom business and have a real fascination for these creatures of the 'Fifth Kingdom.'

Bill Wylie is a musician and an accountant who flies planes and has a boat named Ms. Money Penny. He's a huge 007 fan with a passion for mushrooms and he is on a mission: to cultivate the black morel mushroom.

Bill and Micky Wylie own and operate Wylie Mycologicals near Owen Sound. It's a large shed in the woods that holds endless grow bags of woody mushrooms and includes a grow room where outlandish edible mushrooms are bursting out of bags.

But no black morels. Yet.

It's a cool place owned by interesting people with established careers that one gave up for mushrooms, and the other balances with the fungi (fun guy?). That would be Micky, working with Bill.

Oh yes, it's that kind of interview. Entertaining. Fascinating. Insightful and satisfying.

It starts with Bill. He greets me in the laneway, a welcoming smile on his face and tells me where to park.

We enter the shed and meet Micky! Gorgeous, personable and the primary tour guide in this business. She cultivates mushrooms four days a week, when not working as a law librarian in Toronto.

Bill and Mickey were already multi-talented people when they read

an article in Harrowsmith over 20 years ago about a Calgary man who grew mushrooms. Bill was transfixed by the beauty of the fungi and called the man to get more information. Next thing Micky knew, he was dragging hay into their Toronto basement and had produced an oyster mushroom. He was hooked.

He got involved with the University of Guelph to use their autoclave, began experimenting with different varieties and was soon developing shiitake spawn and

inoculating logs.

In 1986, the couple purchased a piece of land across the road from their Georgian Bluffs cottage because they needed a log yard to focus on growing woody speciality mushrooms.

“When you are growing mushrooms on logs outdoors, you need a yard that’s out of the drying winds, has sufficient shade, but still allows enough snow in to create a snow cover,” explains Micky.

The site worked well and they progressed to a hoophouse to grow the mushrooms on logs.

“Then things really mushroomed,” says Micky.

See? This is just too much fun. But back to the story.

At first the couple were growers and spawn makers but they opted to get out of selling spawn because the right conditions are critical for growing mushrooms and if the right conditions aren’t met, the spawn won’t develop and fruit.

So they decided to become suppliers of grow bags. It’s a fascinating process that begins with piles of sawdust.

Unlike white button mushrooms which require composted manure and the bacteria within to eat, woody mushroom require cellulose – sugar molecules found in wood.

The Wylies mix the sawdust with a cereal (usually grain and wheat bran) and calcium (a buffer to increase pH) in specialty polypropylene bags that withstand heat and have a microporous patch that filters oxygen in and carbon dioxide out.

“The pore size is very small to prevent competition from mold spores and bacteria that want to enter the bag....mold and bacteria are the enemies in this business,” says Bill, aka Mushroom Bond.



Micky Wylie of Wylie Mycologicals near Owen Sound holds up a clump of shiitake mushrooms growing out of their sawdust and grain base. Shiitakes are the most popular seller. The Wylie’s are commercial grow bag producers but do fruit out about 20 per cent of their product in the hoop room where mushrooms were once grown on logs.

“We adopted this technology because growing mushrooms on logs takes a long time,” explains Bill. “We can now produce mushrooms on a much quicker cycle.”

The filled bags are sterilized in a double lock autoclave, entering on one side and coming out sterilized into the lab where they are inoculated with spawn, the mushroom ‘seeds’.

“We don’t go into the lab without being shampooed, showered, wearing gloves, caps and masks,” says Micky. “Then we’re ready to add the sterilized spawn into the sterilized bags.”

“We’re fighting a battle here...” says Bill Bond’s partner, “...against providing fodder for the billion of unwanted fungi out there.”

Once inoculated, the heat-sealed bags (about 435 are made daily) are tumbled to spread the spawn and shelved to begin the process of what is termed the “spawn run”.

There are bags in all sorts of stages on the shelves. Some still look like mud. Others have begun

forming the mycelium in circular, wavy or thread-like patterns, in different time-frames according to the mushroom.

Oysters mushrooms, including Pink Oyster (*Pleurotus djamor*), King Oyster (*Pleurotus eringii*) and Yellow Oyster (*Pleurotus citrinopileatus*) take about two months to fruit. Other varieties take one and a half months while Shiitakes (*Lentinula edodes*) take three months.

Shiitake grow bags are the most popular seller to growers because customers are familiar with the earthy, smoky, and meat-like mushroom for use in stir-frys and barbeque. However, Wylie Mycologicals supplies a variety of woody mushrooms including:

- The Oysters of which Pink Oysters have a sweet taste and crunchy texture while King Oysters are dense with satisfying white flesh
- Beech (*Hypsizygus tessulatus*) a light, crisp mushroom ideal in stir-frys and salads
- Enokitake (*Flammulina velutipes*)

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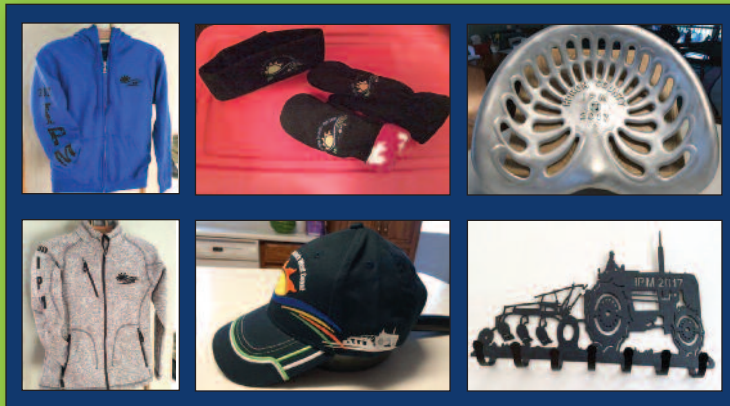
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- Reishi (*Ganoderma lucidum* and *tsugae*) which is a medicinal mushroom taken as a light tea to stimulate the immune system
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- Nameko (*Pholiota nameko*) whose yellow flat caps are good in stir-frys
- Pioppino (*Aegritia agrocybe*)
- White Ferula (*Pleurotus nebrodensis*)
- Turkey Tail (*Trametes versicolor*), and,
- Maitake (*Grifola frondosa*)

Once the mycelium have filled the bags, making them almost white, it's time for grow bags to fruit.

While 80 percent of the bags are shipped to growers because Wylie Mycologicals is a commercial grower business, they do fruit the rest in the original hoophouse that used to contain the logs.

Music is playing in the hoophouse. Pop music.

"I think they would prefer classical music but 1) we can't get a classical music station up here, and, 2) I think our young staff would revolt if we could play it," says Micky. "So I'm hoping it's the radio waves they react to."

The hoophouse is cold, compared to the spawn run rooms. That's because the cell division during spawning creates heat. But mushrooms don't like to fruit when it's too hot so the grow room is kept cool, clean and moist. Yet too cool and the mushrooms won't fruit either. Conditions have to be just right. Mushrooms are picky that way.

The bags are "punched" using a special blade, not unlike a modified steak blade, and this is where the mycelium will turn into primordia, which will pop out of the holes as pips to form into mushrooms.

The Wylies like to get three flushes per bag so they punch five holes at the top of the bag, do a second round in the middle once the first round has pipped, then end with a third round of punches at the bottom of the bag.

It's a fascinating process and the

resulting mushrooms really are gorgeous. The Lions Mane are fuzzy; the Cinnamons Caps dainty with their lace veils, the Oysters bold and shapely, the Pioppino all round and cheerful in close community; the Shiitakes....well...they have their own weathered appeal.

Micky says the Beeches are easy and nice to grow. They store well while the Oysters are a little more finicky.

The “chain of cool” is critical from fruiting to shelving to storage. Even three hours in warmer temperature can take a day off the mushrooms shelf life.

Right now, the Wylies are between two large market seasons. The outdoor farmer’s markets have closed down but the Christmas market, with all the stuffings and specialty appetizers made for the holidays brings a resurgence of orders from growers looking to supply consumers with woody mushrooms.

Things are going well. It isn’t a hugely lucrative business but it’s successful. They are dependent on orders from growers who grow for farmer’s markets and the restaurant trade but they have clients across the province and into the Maritimes and production is continuous. There is stiff competition from American grow-bag mushroom companies and depending on the Canadian dollar, this can be worrisome. However, they’ve remained a successful business for over 20 years so they’ve learned to ride the vagaries of the market.

The business is time-consuming. Bill works at the plant seven days a week. Mickey works four days a week. She has kept her job as a law librarian for her law office clients in Toronto all these years and has no plans to quit.

She is the voice and face behind the operation. The business was highlighted in the fall edition of *Food and Drink* with a photoshoot of Micky that included fake eyelashes and several stylists for hair, make-up...and the mushrooms!

But it’s Bill who has the greater passion for the mysteries of the mushroom. He is determined to crack the case of the black morel.

“I’ve been trying to commercially

produce the black morel for 25 years,” says Bill. “Trying to figure out what God’s trigger mechanism is to get that mushroom to fruit.” He can produce spawn but is stymied about how to create the right conditions to make it fruit.

It’s not just the black morel that intrigues Bill. Mushroom’s need for just the right conditions, and how quickly they grow, fascinates him.

“The rate of cell division is astonishing,” says Bill. “You go to bed at night and the bags are just pinning and the next day, there are mushrooms!”

He believes biology is in his genes. His family were market gardeners in Scotland. While he chose a career in accounting before starting Wylie Mycologicals, he found it “deadly boring” unlike the mushrooms which he still finds intriguing.

Bill and Micky say mushrooms are the “Fifth Kingdom”, a term adopted from the book of the same name by Guelph professor, Bryce Kendrick.

“These guys (mushrooms) are neither animals or vegetable. They are like people in that they breath in oxygen and exude carbon dioxide,” explains Micky.

It’s this respect for the lowly mushroom that the couple also passes on when they mentor new growers who are eager to try and grow mushroom using grow blocks. They’ve helped people convert old pig barns into mushroom growing facilities.

The biggest factor to success is sanitation, stresses Bill. “The downside of mushroom growing is usually caused by a lack of sanitation. The grow room, shoes, employees...everything needs to be clean.”

Interestingly, neither Bill or Mickey particularly enjoy eating mushrooms. Growing, yes. Eating, not so much.

“We just didn’t grow up eating mushrooms and now, when we think of making a stir-fry, we don’t feel like walking to the business to pick some,” says Micky.

Maybe if they could fruit black morels.

At least then, their mission will be complete. ♦



Top to bottom: Cinnamon Caps, Lion’s Mane, Oysters, Shiitake.

