MUSHROOM FARMING: Brothers expanding sustainable food forest venture

NEWARK — The Johnson brothers’ passion about mushrooms — and the woods — is palpable.

They are taking that love of both to the next level as they embark on growing mushrooms for sale.

Noah, 26, and Abe, 24, have subleased about six acres from Peacework Organic Farm on Welcher Road and are creating what they call a food forest. They started in the fall of 2012 and last year produced enough mushrooms to include in the organic farm’s customer shares and sell some at local farmers markets. Their goal this year is simple: Grow more mushrooms and expand into more farmers markets.

This is no ordinary farm, with soil and neat rows of crops. The Johnsons grow their mushrooms in logs and wood chips and are cultivating a number of varieties, including oyster, lion’s mane, reishi, shitake, wine cap and turkey tail.

The Johnsons’ foray into food production started simply.

The Sodus High School graduates always enjoyed the woods. In high school, they started a garden at their parents’ half-acre home between North Rose and Lyons, highlighted by annual vegetables like beans, zucchini and tomatoes. Eventually, they planted pear and plum trees on the outskirts.

“At first Mom and Dad were like what happened to our nice lawn,” Abe said.

After high school, Noah studied business at SUNY Delhi and golf management at Florida Gulf Coast University, while Abe began studying culinary arts at Paul Smith’s College in the Adirondacks. Abe stayed just a year after realizing he was having more fun in the woods with his friends than in the classroom.

“I switched over to this because being out in the woods, there’s something about connecting with nature,” he said, adding that “once you start hunting mushrooms it’s really a big thrill ... it’s a lot of fun.”

Both brothers studied permaculture design at the Finger Lakes Permaculture Institute, which defines permaculture as “a design discipline for productive systems such as gardens, farms, homesteads and urban sites utilizing ecological principles found in natural systems. These ecological principles combined with a design method help to create sustainable, healthy, abundant landscapes while meeting basic human needs.”
The Johnsons base their food forest mission on three ethics of permaculture: earth care, people care and fair share.

In the woods, near the bottom of a small hill, they created a swale that’s longer than a football field. This mound of dirt, situated on a contour and covered in wood chips, aims to stem erosion by catching water that flows down the hill. As the water slowly spreads, the forest's nutrients spread with it.

Store-bought mushrooms, according to Noah, are grown inside bags that are usually filled with sawdust and sterilized. Conversely, the Johnsons’ mushrooms are more nutrient dense because they reap the benefits of the forest environment in which they are grown.

They claim their mushrooms are tastier too. Mushrooms sold in stores, usually shitake or portobello, are harvested later — when their caps have fully opened and their spores have dropped, Noah said. At that point, they have less flavor and a tougher texture.

“We like to harvest them as babies, or buttons, because they taste better and are more tender,” he said.

A recent tour of their “farm” was really a short walk through the woods. In a clearing were several beds of wood chips in which wine cap mushrooms were growing.

Abe said that variety flourishes in a shady spot in temperatures ranging from 40 to 90 degrees. Wine caps are burgundy in color and taste like potatoes cooked in wine, he added.

“With a good rain I’ll check the bed the day after, and little mushrooms will be popping out,” he said.

In nearby forest cover are grids, or cribs, of neatly stacked logs. The grids house other varieties; each likes its own wood. Shiitakes prefer hardwoods such as oak and maple, while oysters thrive in softer wood such as poplar. The brothers drill holes into the wood and inoculate them with “spawn” purchased from a Wisconsin supplier that contains a specific strain of mushroom mycelium. The hole is covered with a mixture of beeswax and paraffin to keep the mycelium from drying out or getting eaten by bugs. The spores germinate, grow and spread throughout the log and when mature mushrooms fruit through the holes. Once the logs show signs of fruiting, they are placed in a water-filled tub to force the process.

“The extra moisture will produce a heavier fruit,” Noah said.

The mushrooms in the logs generally take longer to germinate; the shiitakes can take up to a year. The logs are tagged with small metal plates indicating the inoculation date, wood type and mushroom species.

When it comes to naming their favorites, the brothers struggle. They talk about making a Chaga mushroom tea, or breading and pan frying shitake and oyster mushrooms.

“The oyster is like the chicken of the woods,” Noah said.

**Grow (or find) your own**

Brothers Noah and Abe Johnson sell do-it-yourself mushroom growing kits for $15. The contents include five pounds of wood chips inoculated with wine cap mushrooms.

They are presenting a mushroom-hunting course starting in June and ending in October; it runs from 9 to 11 a.m. one Saturday a month at different Wayne County parks. Participants will learn about mushrooms and their environmental conditions; mushroom-hunting etiquette and state laws; and locally available edible mushrooms and their look-a-likes. The cost is $70 per class or $290 for all five. Several books are recommended.
For ordering or registration information, email JohnsonBrothersFoodForest@yahoo.com.