



Reciprocal Living and Giving

SOMETHING'S FISHY AT MINEOLA-BASED EAST TEXAS AQUAPONICS. So, “lettuce” tell you about this farm and its harmonious greenhouse ecosystem.

Owned and operated by Richard and Sharon Hasting, members of Wood County Electric Cooperative, East Texas Aquaponics grows nutrient-dense produce to supply farmers markets, groceries, fine-dining establishments and even charitable food banks in an interesting and synergistic way.

When the Hastings were formulating the business model for their farm, they had several goals in mind. They wanted their farm to be sustainable and avoid depleting resources. They also wanted to provide good nutrition and education to others and help relieve food insecurity. After much research, they chose aquaponic gardening as the approach to achieve those goals.

“The reason we got into this is we started becoming aware and passionate about the need for clean food and what was some of the serious ills in our food system,” Sharon says of the couple’s thriving business. “We became very passionate about becoming part of the solution to the problems in our food system in terms of processed foods, nonorganic foods and the lack of the availability of fresh food in food desert areas and urban areas. So, that’s how we got started.”

Richard says they landed on aquaponics because it’s reproducible: “You can grow 12 months out of the year, and it grows both protein and greens at the same time.”

Aquaponics is not a new technique, but it’s not widely used by commercial growers in the United States. The farming method utilizes live fish or other aquatic creatures like shrimp or crayfish to naturally fertilize the water that then feeds plant crops.

At East Texas Aquaponics, the system begins with two 1,000-gallon rearing tanks that are live wells for two types of fish, koi and tilapia. These fish are fed organic fish food, and their deposits turn the water into nutrient-rich plant food.

Before the water is used on the plants, it’s moved by pipe and pump to media beds, which act as biofilters, or living filters. These drainage areas are filled with porous materials such as marble chips or clay pellets that host over 1,000 types of beneficial bacteria that thrive in the oxygen-rich environment. It’s the bacteria’s job to filter the water of toxins like ammonia, algae and other harmful bacteria that came from the fishy water by converting them into nitrates and phosphates, which are food for plants.

Once the toxins are removed, the mineral-rich water is sent to deep-water culture beds to be taken up by the plants that grow there. Those plants are grown from seeds in another part



1. Richard and Sharon Hasting, owners of East Texas Aquaponics, use aquaponics to produce nutritious and sustainable crops.
2. Richard rinses lettuce and sets it to dry before packaging for market.
3. From seed plug to harvest is approximately seven weeks.
4. Freshly harvested lettuce is placed in a drying rack after washing.
5. Clamshell packaging ensures the living lettuce remains pristine for the consumer.
6. Richard lifts a raft of plants from the deep-water well.

of the greenhouse and then moved to the water beds, where they float on food-grade polystyrene rafts. Once placed in the rafts, the plant roots grow beneath the surface, while the leafy tops stay above the waterline to flourish.

Once the plants have gobbled up all the nutrients to aid their growth, the water that remains is once again in an oxygen-rich and toxin-free state and is returned to the rearing tank as freshly filtered water for the happy fish to swim in.

While the fish feed the plants and the plants keep house for the fish, and the good bacteria serve as intermediaries, there are a few other living beings that take part in this closed-loop system. Like all gardens, there are some undesirable insects that plot to eat or destroy the merchandise. These pests, such as aphids, beetles and nymphs, have natural enemies. To keep the greenhouse environment the best it can be, the Hastings periodically unleash beneficial bugs, such as assassin bugs, lacewings, ladybugs and nematodes, to take care of the would-be crop destroyers. Several varieties of frogs also take up residence to complete the manufactured biosphere.

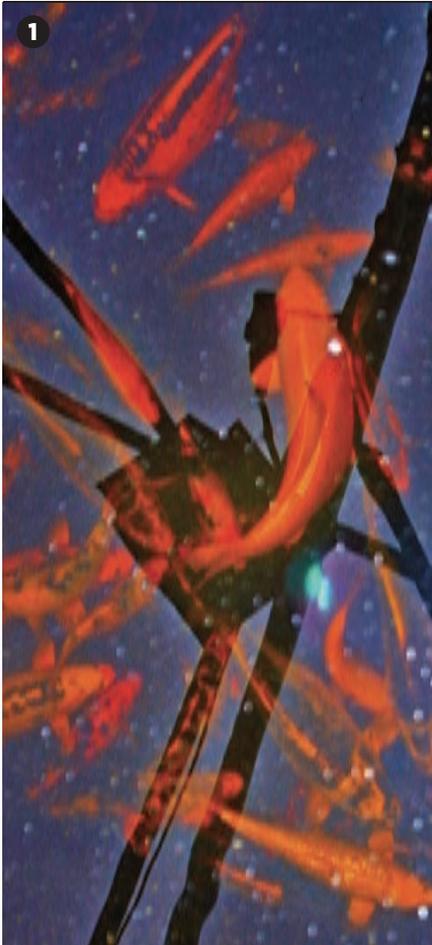
So, what do the Hastings grow in their greenhouse Eden? They primarily produce varieties of living lettuce crops, including romaine, green and red varieties of oak leaf, some bibb lettuces, swiss chard, and herbs like basil, mint and water-

cross. Living lettuce is called such because the roots are left intact. At harvest, the farmers simply lift the lettuce, roots and all, from the raft. The plant then receives a simple wash, the roots are wrapped in a ball, and the whole plant is placed in a container for the consumer market. The reason the roots are left on is that when a plant is separated from its roots, it immediately begins to die. By leaving the roots on, the plant continues to live and grow. But, more importantly, it remains nutrient-dense and thus a healthier food source for humans.

“The lettuce, the way we sell it with the roots on, it’s still a plant,” Sharon says. “It has not lost any vitamins. Those beautiful boxes of triple-washed leaf lettuces that are being shipped out of California in little boxes that look so fantastic, even the organic ones, have been harvested and sitting in some box 2–3 weeks. By the time you get to eat them, they still taste fresh, but don’t have a whole lot of nutritive value.”

In addition to lettuce and herbs, the Hastings also make full use of the aquaponics system. The media beds are used to grow seasonal crops like peppers and edible flowers. They also have plans to grow other crops like tomatoes and microgreens in either the media beds or deep-water beds.

Surprisingly, the Hastings have not been commercial farmers long. In fact, they just bought the land for East Texas



1. In colder weather, the koi rarely surface. But even as they swim at the bottom of their live well, vibrant colors shine to the surface.

2. Started from seed, most of the lettuce grown at East Texas Aquaponics is harvestable after about seven weeks.

Aquaponics in 2015. The business is part of what the couple calls “our next”—their process of winding down from their tech careers. After retiring from his software engineering job, Richard built their greenhouse and now works full time on the business. Self-taught, he also designed the aquaponics systems, the water heating system and a chain evaporative cooling wall, among other things. At this point, Richard is the full-time, hands-on farm manager, but he has the help of two part-timers for harvesting and other farm chores. Sharon remains employed full time at her Austin-based job, commuting weekly. But she’s also in charge of marketing, communications, sales, payroll, accounting, invoicing and inventory for the farm.

As for their long-term plans, Sharon says, “East Texas Aquaponics is the first step in what we would like to achieve.” Beyond growing their business, their plans include building a permaculture lifestyle. Permaculture is an agricultural ecosystem that is self-sufficient and therefore sustainable.

“Every living being has a dual purpose, where inputs become outputs and vice versa,” Richard says of the model. One such example is the hügelkultur garden he started. The garden is constructed of crops planted atop buried logs harvested on the Hastings’ land. The decomposing wood holds moisture to make the garden a fertile environment for no-dig food crop gardening. Richard also built a chicken coop that’s situated in the garden. The chickens provide fresh eggs, add

fertilization and keep the crops pest-free by eating insects.

In the Hastings’ move toward permaculture, they have many other plans and techniques they’d like to add to expand their sustainability while maximizing their resources. Richard is a student of sustainability, but he’s also a knowledgeable instructor. Therefore, he hosts tours and hands-on classes at their farm and serves as a paid consultant to teach others about sustainable farming.

Sharon says they also have plans to develop a community-supported agriculture project, or CSA, which allows consumers to subscribe to fresh harvest. “We’d also like to expand our reach—not in distance, but in consumers,” she says.

As the Hastings’ business grows, they’ll keep on feeding the fish that feed the plants that feed the people. They will continue to educate themselves and others. And, in addition to selling their food, they will continue to donate produce to non-profit food banks.

On the Hastings’ farm, as one being consumes another, it also gives rise to the circle of life in a demonstration of nature’s reciprocal way.

More information on classes, tours and where to find produce from East Texas Aquaponics can be found on the farm’s Facebook page and its website at easttexasaquaponics.com. Those interested in sales or tours can contact the Hastings at etxaquaponics@gmail.com or by calling (903) 569-5789.

Managing Rights-of-Way the Right Way

AT WOOD COUNTY ELECTRIC COOPERATIVE, OUR GOAL IS TO PROVIDE SAFE, RELIABLE and economical electric service to our members. Managing trees and other vegetation around our facilities and in rights-of-way is key to achieving that goal.

Trees may seem harmless on a calm, sunny day. But add a bit of wind on a stormy night, and those towering pillars might threaten your home's electric supply. We perform routine maintenance of trees and other vegetation throughout the system to help prevent outages.

Maintenance includes pruning trees, removing hazardous trees, mowing and cutting brush, and applying herbicides. These activities all are designed to minimize adverse environmental impacts and fully comply with applicable laws and regulations. They are essential to maintaining reliable electric service for our members and to provide for the safety of both your family and the public.

Trees beautify our region, and when planted right, they can even lower electric bills with their shade. A tree in the wrong location, like near power lines, can be an extreme hazard. To learn more about positioning trees when planting, check out the tree planting guide at wcec.org in our safety center.

Do I Really Need To Call 811?

YES! DON'T MAKE A JUDGMENT CALL; MAKE AN 811 CALL. HOMEOWNERS OFTEN MAKE risky assumptions about whether they should get their utility lines marked, but every digging job requires a phone call—even small projects.

I am only planting a small flower bed or bush.

Did you know that many utilities are buried just a few inches below ground? You can easily hit a line when digging for simple gardening projects, like planting flowers or small shrubs. Make the call to 811 anytime you're putting a shovel in the ground to keep yourself and your community safe.

I am just installing a mailbox.

Buried utility lines are everywhere. Installing mailboxes and fences are examples of projects that absolutely require a call to 811 to know what's below before digging. Hitting a line can knock out service to your home and neighborhood or result in fines, damage and injury. Don't make a judgment call—make the call to 811 every time you dig.

I am digging in a spot that was previously marked.

Erosion and root system growth can alter the depth and location of buried lines, or your utility companies might have completed work on their lines since the last time you dug—so you must call 811 before you dig each time.

I hired a contractor or landscaper to do the digging project.

Be sure to check with your contractor or landscaper to make sure the call to 811 gets made before digging begins—whether it means you making the call or your contractor doing so. Never let digging work begin without the call to 811. It's not worth the risk.

I am only digging in a small area and don't want my entire yard marked.

If you are planning to dig only in a small portion of your yard, you can outline the area in white paint or white flags available at home improvement stores to ensure that only the utilities in that part of your yard will be located and marked. Be sure to let your 811 operator know about your plans, and he or she will help ensure the proper area is marked by utility locators.



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MOBILE CONVENIENCE CENTER

Monday, First Methodist Church, *Van*
Tuesday, Family Dollar, *Mount Vernon*
Wednesday, City National Bank, *Hawkins*
Thursday, Brookshire's, *Winnboro*
Friday, Economy Drug, *Grand Saline*

A Mother's Day Haven

Share the ritual of afternoon tea in a garden-like Northeast Texas setting

BY PAIGE EATON

THIS MOTHER'S DAY, A WEEKEND JAUNT into an East Texas countryside steeped in history, nature and tradition promises a memorable afternoon ritual. The now-quiet English custom of high tea has mostly evaporated from our modern, fast-paced society. Scarbrough Haven is reviving that sophisticated celebration with a genteel afternoon of sweets and savories to honor Mother's Day.

The garden-like Scarbrough Haven is a carefully manicured retreat created by Janie and Bob Scarbrough, a Dallas couple who share part of their 800-acre property by staging Mother's Day festivities as well as tours and events. Scarbrough Haven, in the Farmers Electric Cooperative service area between Lake Tawakoni and Lake Fork east of Emory, features gently rolling pastures forested with native blackjack oak, post oak, hickory and elm. Dogwoods and redbuds create a flowering understory beneath the hardwoods and, with spring-time glee, tattoo the verdant woods with pink and white blooms.

The Scarbroughs purchased the first 41-acre parcel of their haven in 2007, following a notion that they'd enjoy a quiet escape from bustling Dallas. Since then, the Scarbroughs added contiguous parcels of meadowland as well as more woodland and orchards. Their philosophy has been to maintain the land's natural appearance and enhance the landscape where appropriate with azaleas, cypress and blooming trees.

"Ten years ago, we purchased the property as a way to get away from it all," Janie Scarbrough says. "However, instead of 'get-

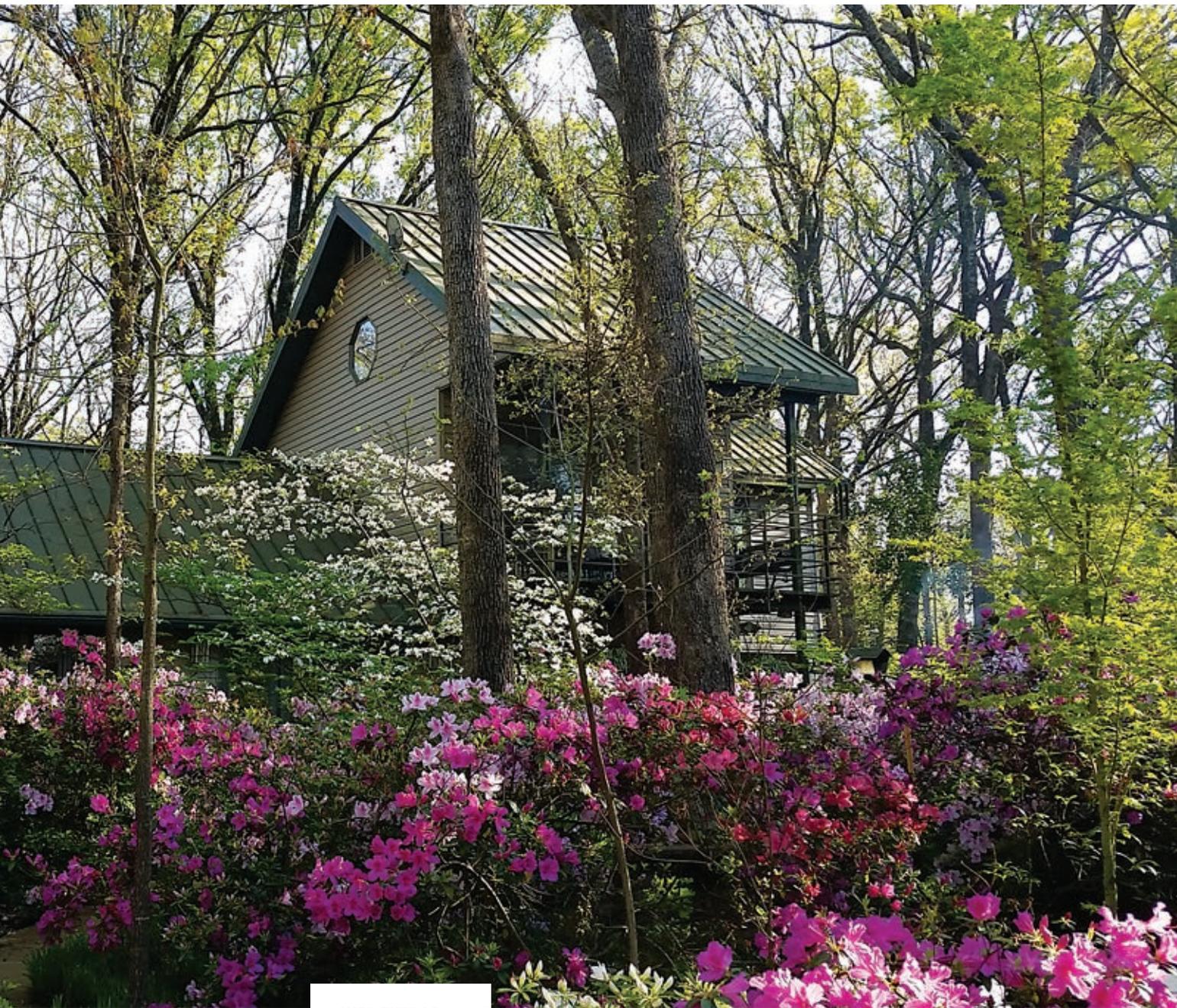
ting away,' we feel we have found a special place that has given so much to our family."

Scarbrough Haven expresses a manicured wildness where graveled paths lead visitors through natural woodland containing more than 100 birdhouses and nest boxes, which harbor native bluebirds, finches, wrens and wood ducks. Trail travelers will appreciate a collection of sculptural whimsy tucked among bends and clearings around the property. Deadfall trees have been fashioned into benches for quiet reflection and watching local inhabitants such as rabbits, white-tailed deer and other wildlife. Adirondack chairs overlooking Lake Fork offer an observation point where guests can view graceful water birds and watch flyovers from the unmistakable and impressive bald eagles that nest and hunt in the area.

"With such a magical piece of land, we wanted to responsibly develop and share it with others, while respecting the natural environment," Scarbrough says.

Beyond nature's gifts, Scarbrough Haven harbors some architectural surprises, including the 19th-century Emory Train Depot that was abandoned in the 1950s. The depot was moved onto a parcel of land that is now part of Scarbrough Haven. The Scarbroughs restored the building in 2015 and added a decommissioned train caboose nearby.

Another unexpected landmark on the property, more typical of a Western tableau, is an antiquated jail cage. An enchanting greenhouse, newly built with old-world style, was creatively constructed from reclaimed materials. The greenhouse incor-



porates an inventive and whimsical pulley-and-gravity-fed system that draws water from a rooftop rain barrel and pours it from the ceiling via an accumulation of vintage watering cans.

You'll find Scarbrough Haven and Emory about 75 miles east of Dallas. Weekenders can lodge at the Best Western Plus Emory at Lake Fork Inn & Suites during a visit to Scarbrough Haven or nearby Lake Tawakoni State Park or Lake Fork. Emory serves as the seat of Rains County, one of the smallest counties in Texas. The town and county take their names from Texas Republic Sen. Emory

WEB EXTRAS

► Read this story on our website to learn more about Mother's Day Weekend Tea.

Rains, who rode a mule to Austin in 1866 with the mission of forming the county.

The Scarbroughs are reconstructing a hand-hewn barn that will house an events venue, and they're completing a 300-seat amphitheater

where they will stage concerts. Meantime, they are inviting the public to Scarbrough Haven for scheduled events. They will host reserved tours for artist groups, master gardeners, master naturalists, classes and school groups.

Paige Eaton is director of communications at Wood County Electric Cooperative.

Every view from the main house, surrounded by towering trees and blooming plants, is picturesque.