Keyes makes rag rugs on four looms, each more than 100 years old. In 2025, he wove 160 rugs from various materials, using all four looms.

Weaving Hobby Provides Exercise And Income

"I guess you could say I was born into weaving because my dad had me fill his shuttles when I was about 8 years old," says Ralph Keyes, a retiree from Waseca, Minn. "Now it's 80 years past those shuttle-filling days, and I spend several hours a day making rag rugs on four aging looms in the basement of our house."

Retired after a lifetime of working as a teacher, school principal, county commissioner and appraiser, Keyes has spent the better part of 10 years on a hobby that provides plenty of exercise and a decent return on his time.

"I really don't think of it as work at all," Keyes says. "It's something I really enjoy because there's creativity and busyness involved."

He works at the craft for 2 or 3 hr nearly every day.

Keyes began weaving after he acquired the loom his father, Raymond, had used. He assembled it in his basement, ensuring the 360 warp strings were in perfect order.

"I wove my first rug probably 30 years ago and wanted the edges to be perfect without any fraying," Keyes says. "After selling a few, I realized that most rugs get stomped on, chewed on and dirty, end up in a washer and come out with the edges all frayed. After that, I just slammed the materials together, and they were easier to make."

He enjoyed using the first loom so much that he soon acquired three others, all of which are assembled and operational in his basement. Four more are unassembled in his garage. The assembled looms are 4 ft square and about 4 ft tall. They're more than 100 years old, built by the Union Loom Company of Boonville, N.Y., between 1916 and 1930.

"In those 14 years, the company built 40,000 looms and, at one time, had 160 employees," Keyes says. "The company doesn't exist anymore, but weaving is still a hobby for many, supported by a small magazine that's produced twice a year."

Keyes made 160 rugs in 2025 and sold all but one at markets and events around southern Minnesota. Regardless of the material, he sells them for $40. Some are made from old shirts, blue jeans, bedspreads, curtains or bed sheets.

"One fitted sheet and two pillowcases make a really nice rug," he says.

When he became known as an accomplished weaver, friends in town would call to offer him materials.

He laughs as he says, "Sometimes boxes of fabric just show up on my doorstep."

Other times, people bring special fabric for an heirloom rug. He's also used trimmings from large material runs at the Faribault Woolen Mills. Keyes says those were ideal because the strips were long and already cut to the correct width. Most of the material he has to cut or tear into strips a few inches wide, then he sews them into long strips. Finished rugs are 25 in. wide and about 54 in. long.

According to Keyes, each rug takes about 4 hr to make.

Different materials create a range of textures and colors in rugs. In Minnesota, people prefer darker colors that don't show soiling. Lighter ones sell well at his winter home in Florida. He says customers especially like the bumpy texture of rugs made from old chenille bedspreads. Buyers in the South want smaller rugs and sometimes use them as table runners or bench covers.

"Small square rugs placed in front of any easy chair keep guys from kicking the carpet and wearing it out when their favorite sports team on TV makes dumb mistakes," Keyes says with a laugh.

Keyes is a regular exhibitor at Farmamerica, an agricultural venue near his hometown that hosts open houses showcasing farm life from days gone by.

"People watch me weave a rug and are amazed at the work that goes into it," Keyes says. "One rug takes about 4 hr, half the time preparing the material and the remainder assembling it."

He especially enjoys showing young kids how a loom works, asking them to say "hocus pocus" when the material is spliced together in the middle of a rug.

"They think it's magic," he says.

With four looms set up in his basement, Keyes can work on different rugs and materials without growing tired of repetitive work. He says weaving may seem like a lost art, but he occasionally gets calls from people wanting to learn the craft. Recently, a lady asked for his help, and when he arrived at her home, he found the loom in pieces all over the basement.

"We put it together in a couple hours, and she said she'd call to have me teach her how to use it, but she never has."

His 26-year-old granddaughter, however, has taken up the craft and is doing well.

"She'll be carrying on the family tradition when I'm done," he says.

Contact: FARM SHOW Followup, Ralph Keyes, 1321 7th St. S.E., Waseca, Minn. 56093.

Revida's innovation lies in its containerized infrastructure. Systems arrive at farms or wineries in 20 or 40-ft containers, ready to connect to dirty and clean-water plumbing.

They're Transforming Farm Waste Into Drinkable Water

Ten years ago, Ashish Shaw identified a glaring agricultural issue: large-scale water use often comes with strict compliance requirements, making it impossible to simply flush wastewater down the drain.

"I decided to create a cleaning service for large water users like wineries, orchard growers and dairy farms," Shaw says. "I thought if I could make it technologically possible and financially viable to clean wastewater, most farmers and growers would be interested."

The result, Revida Water, takes a comprehensive approach.

"Think of water treatment in three buckets," explains founder Shaw.

First, the process removes floating and sinking contaminants, including oils, fats, grease, rocks and wood. Second, beneficial bacteria are introduced to break down dissolved contaminants. Third, the water passes through progressively finer filters.

While the tools may differ across industries such as wine or dairy, Shaw notes, "Generally speaking, the process remains the same. Dairies, wine or tomatoes, it doesn't really matter when it comes to cleaning it."

Revida's innovation lies in its containerized infrastructure. Systems arrive at farms or wineries in 20 or 40-ft containers, ready to connect to dirty and clean-water plumbing.

"Think of us as a box, literally and figuratively, where dirty water goes in and clean water comes out," Shaw says. "We build the box at the factory, install it at the farm, maintain it, service it, and the end user never buys the box or even worries about what's in it. They simply buy the outcome."

These modular systems can be customized by size and operated in sequence or in parallel, making them easy to transport, install and scale. The internal technology combines chemical treatment, microbial digestion and filtration, tailored to each site's specific needs and volume. Units can be up and running in mere hours.

Efficiency is a constant pursuit. Revida's deployment at UC Davis is 100% off-grid, powered by solar panels for the smaller 20-ft unit. The backup is a standard 110-volt wall outlet. Customized systems can handle anywhere from 1,000 gal a day, needed for bacteria to thrive, to over a million gallons, making them ideal for large dairies with thousands of cows.

Only a small amount of water is lost during the cleaning process as the solids drop out, usually less than 10%. The rate of loss depends on how clean the operation wants it to be when finished. From irrigation to wash water, misting or even drinking water, Revida's systems can deliver it to the required standard.

"Even cleaning to drinking water that meets EPA standards should be able to realize 8 out of 10 gal put in. We're the first company in the world to make the claim of commercially turning cow manure wastewater to validated drinking water."

Shaw doesn't just claim these results; he demonstrates them.

"I'll drink the water, and truthfully, it's too clean," he says. "EPA drinking standards are quite different than on-farm animal drinking water. We're investigating making it 'a little less clean but safe for animals to drink.'"

California, with over 250 anaerobic digesters on dairy farms, faces significant wastewater challenges after methane capture.

"It's a very catchy and almost too good to be true statement to say I drank cleaned water from anaerobic digesters. To make that claim, we had to make the technology happen, but there's still a trust deficit. We'll show interested customers what our system can do. After demonstrating, I usually drink the water, and the disbelief goes away. Then we start talking commercialization," Shaw says.

Although Revida Water's service is available nationwide, most installations are in California, with pilots and systems operating at sites like UC Davis.

"We didn't reinvent this. In the past, tech A didn't talk to tech B, and tech C didn't talk to either. We've worked on that. Then we made it seamless and easy for the farmer to adopt as a no-brainer."

Revida Water doesn't sell its California-built systems outright. Instead, it charges by the gallon.

"Farmers give us between x and y quality water, and we promise that our treatment system will give them between a and b back. Based on that, we charge per gallon, with our target price in the cents."

Shaw urges interested parties to contact Revida Water directly to learn more details.

Contact: FARM SHOW Followup, Revida Water, Napa/Stockton, Calif. (ph 707-247-8080; hello@revidawater.com; www.revidawater.com).