



Bales of Beauty

STORY BY BETH JUDY | PHOTOS BY CRAIG MOORE

Bigfork couple say their straw-bale house is healthy for them and easy on the environment

— Darin and Kristen Fredericks are used to jokes about the Three Little Pigs. You remember the story: One of the pigs builds his house from straw, and the big, bad wolf blows it down. Darin shakes his head. “Not these walls. A cannon couldn’t penetrate them.”

— In 1998, the couple bought an older home on the banks of the Swan River in Bigfork. Darin is a builder, and the couple was excited about replacing the structure with their dream home. Having traveled together in Mexico and the Southwest, they admired the ▶



Photos these pages: Darin and Kristen Fredericks have built a straw-bale home, not only because it's good for the environment, but because it's good for them, too. Kristen points to a "truth" window in one of their walls; something straw-bale homes have to show what's between the walls.

thick walls characteristic of those regions' architecture. Darin planned to build them with concrete, but the cost was prohibitive. One of his employees mentioned straw-bale construction. He lived in a straw-bale house. "I scoffed at the idea," Darin says, but he bought some books on it. "The more I read, the more I fell in love."

The walls of straw-bale buildings contain stacked bales covered with plaster. In smaller structures, the bales actually support the roof. In this two-story, 3,100-square-foot home, modified post-and-beam construction provides support; the bales are insulation.

Once Darin was convinced, Kristen was the skeptic. Her

concerns, he says, reflected common myths about straw-bale construction. What about mold? Mice? Fire? The answers lay in the bales, visible through the Fredericks' "truth window" in a wall of their living room. Truth windows are a tradition in straw-bale construction; they prove the house is what it's said to be. Densely packed straw presses against the small Plexiglas window. That density translates into immunity against critters and fire. "Fire just smolders in a bale. Wood burns much more easily," Darin explains. "And there's no room for a mouse to live." He says straw-bale homes are no more or less prone to mold than other houses. ▶

Construction started in 2002. It was labor-intensive but, on several fronts, a joy. The medium allows and even encourages artistry, Darin says, pointing to deep window wells, niches, arches, and curves. Another joy was the local materials. “The bales came from a farmer in Creston,” says Darin. The walls contain about 400 of them. After they were stacked, Darin, his father-in-law and a helper smeared a slurry of dirt and water onto their sides as a kind of primer. Then they troweled on a more substantial “earth plaster,” a mixture of clay, sand, and chopped straw. The dirt and clay in both layers were as local as you can get. “We’d grab a couple of wheelbarrows of dirt from our excavation, throw it in the mixer, and put it on the walls,” Darin remembers. Not any dirt will do, he cautions; their soil happened to contain the right proportion of clay (revealed by a simple test with a Mason jar and water). The earth plaster lasted great through the winter, then they covered it with lime plaster to better withstand water. The result is walls the color and texture of buckskin.

Those thick walls aren’t the house’s only reflection of the Southwest. The roof is tiled and an arch leads to the front door. Inside, the living spaces are airy and spare. Wood gleams everywhere in exposed rafters and headers, window sills and doors, keeping the feeling cozy. Most of the wood is recycled, including beams from an old Libby mill, barnwood from the eastern U.S. and Flathead Lake driftwood. Even stones and tiles in the decor have stories.

Rocks set into the foyer walls came from a camping trip near Boulder. A slab now forming part of a step was hauled from Hungry Horse. The couple trailered interior tiles and two sinks from Mexico.

Darin didn’t realize his house would lead to a new career in building. Health is important to him and Kristen, who teaches Pilates at a health club. The couple met in adventure racing, a fiercely competitive extreme sport. For their young family, they wanted a house low in volatile organic compounds—chemicals in some building products that can be bad to breathe—so they used natural products. Tile and clay floors have five coats of linseed oil for durability. The kitchen counters are pulverized limestone; simple iron oxide colors them sunflower yellow.

Darin treats wood in the house with Bioshield, a linseed-based product. “This house is as healthy as you can get,” he says.

Now, Darin builds nothing but “green.” He co-founded the Flathead Green Builders Guild and has been certified with Build It Green and the U.S. Green Building Council. Green building is about energy efficiency and indoor air quality, he says, but also starts with appropriate site selection and development and construction with as little waste as possible.

“A lot of people think green building is for liberals and people who believe in global warming,” Darin says. “But to me, it’s about taking care of yourself and your family.” **M**



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