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House of Straw

Folks are warming up to energy-efficient and evironmentally sound stalks of grain for home insulation

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Los Angeles Times

LOS ANGELES - The straw-bale house, once found only in the sticks, is coming to town. From Santa Barbara to San Diego, building officials are giving their blessing to straw-bale houses cropping up between tract homes and alongside beach bungalows.

At a recent "bale raising," neighbors and friends helped Matt Buckmaster and his wife, Jan Vucinich, stack bales in the home's post-and-beam framework. The bales were then skewered with reinforcing pins and covered with chicken wire and stucco.
(Photo by Kevin P. Casey/ LA Times)

Matt Buckmaster and his wife, Jan Vucinich, are among the first in Southern California to obtain permits for straw-bale homes. Buckmaster is building the two-story house himself, with occasional help from contractors, in the suburbs just outside Santa Barbara.

Tucked behind a dilapidated redwood barn at the end of a long driveway, the 1,600-square-foot home has a commanding view of suburban houses below. At a "bale raising" last fall, neighbors and friends helped the couple stack bales in the home's post-and-beam framework. The bales were then skewered with reinforcing bar and covered with chicken wire and stucco. Buckmaster, 38, a feed store owner, spent many long days and nights mastering straw-bale building techniques. But he and Vucinich, 40, a preschool director, remain good-natured trailblazers for the growing straw-bale movement. The couple's home cost $200,000, cheaper than a conventional house, largely because Buckmaster acted as general contractor.

Until recently, most straw-bale houses were built without permits in rural areas where the nearest neighbor was around the bend or over the next hill. But California and Oregon, and some jurisdictions in Arizona, New Mexico, Texas and Colorado, have amended their building codes to allow straw homes.

Armed with tests that prove straw-bale houses' ability to retard fire, repel pests and rodents and withstand moisture and earthquakes, property owners are applying for - and obtaining - permits to build with straw.

Renewed interest

The first straw-bale houses in the United States were built in the Nebraska Sand Hills in the early 1900s. About 25 of these homes survive today. The practice then spread to the south but petered out as conventional building materials became available in the mid-1900s. The straw-bale renaissance in the United States began in the late 1980s, primarily in Arizona and New Mexico, where the style is well suited to the hot, dry climate. The renewed interest in straw homes was prompted largely by their hardiness and their energy efficiency. They can last twice as long as wood-frame homes and save up to 75 percent on heating and cooling costs.

Straw-bale construction also can reduce building costs. Depending on the "sweat equity" of the builder and the home's design and amenities, straw homes can run from $20 to $75 a square foot. Conventional wood-frame houses typically cost $45 to $75 a square foot.

But because the shell of a home constitutes only about 10 percent of its total cost, custom straw home prices often rank near conventional home costs.

This was the case for Laguna Beach resident Christopher Prelitz, 43, who spent about $150 a square foot on his three-story straw-bale home, which sits in a small canyon surrounded by 1950s homes, remodeled bungalows and new houses.

A general contractor, Prelitz said he was drawn to the hands-on experience provided by straw-bale construction.

"I really like the idea of molding your own space," he said. "There's something to it when you've actually physically put the mud on your own walls that makes it your own place." Much of the material Prelitz used to build his eclectic home was recycled. Some of the framing lumber came from old

movie sets, and the deck's guardrail posts are old telephone poles.

Prelitz, who has a mortgage on his house, didn't have trouble selling his lender on straw-bale construction.

"As long as you have a permit and as long as it is in city boundaries, lenders don't have a problem with it," Prelitz said.

But in county jurisdictions, he said, "There can be snags because they don't have as stringent building codes as cities do, so lenders worry about their investment."

Bale Raisings

Buckmaster and Vucinich used recycled materials throughout their hillside Santa Barbara home. There's the straw in the walls, wood recycled from an old slaughterhouse on the window frames and an old glass entryway from the Santa Barbara art museum as the front door.

The couple's neighbors were thankful that they didn't overbuild on their 1.6-acre lot, which was once part of a ranch where walnuts, lemons and avocados grew.

Despite growing acceptance, getting a straw home approved by building officials in some places is still a struggle.

"I have yet to meet a straw-bale homeowner who doesn't absolutely love living in a straw-bale home," said Judy Knox, co-owner and co-founder of Out on Bale, a Tucson-based company that helped jump-start the current straw-bale movement.

"But I also have yet to meet someone who didn't undergo much hardship with building a straw home."

It took Berkeley residents Debbie and Roger Jackson four years to get the final building permit for a straw-bale home proposed for a lot they own in Modoc County. County officials were reluctant to permit the unconventional method and took a lot of persuading.

The Jacksons, who filed their first set of plans in June 1995, got incremental permits from the county for the house. A permit for the foundation was issued in 1997 and one for the frame and the roof in 1998.

"You're definitely tap dancing the whole time and coming up with new ideas," said Debbie, a 47-year-old research biochemist. "The organization of it takes a long time."

The Modoc County Board of Supervisors adopted the state's straw-bale guidelines in 1996, but it took the building department three years to catch up with the guidelines.

The department issued final approval for the Jacksons' 2,700-square-foot home in July. They hope to move in this summer.

After they got the permit, the Jacksons held a "bale raising." Reminiscent of old-fashioned barn raisings, bale raisings usually involve several dozen participants, many of whom travel long distances - and even pay - for a weekend of hands-on instruction in how to build a straw home.

At most bale raisings, participants learn to stack and secure bales into the walls of a post-and-beam home from an architect or straw building expert. Then they go to work, lifting and fitting the heavy bales into the home's walls.

Standardize BuildingTtechniques

Berkeley architect Dan Smith, one of the founding members of the California Straw Building Association, has seen the demographic of straw-home builders widen.

"In the last couple of years I've had quite a few more upper-end clients," Smith said. "It's definitely moving into a realm of substantial houses. People are seeing it as a higher-quality house for the aesthetic and thermal qualities."

So what's next for straw-bale construction now that it's made inroads into some urban areas?

"The resurgence has reached a stage where we're sort of hung between being a mainstream building method and a pioneering building method," said Knox of Out on Bale. "There are still widespread areas where there's not code acceptance or problems with insurance and financing."

To bring wider acceptance, straw-bale proponents must standardize building techniques, said David Eisenberg, co-director for the Development Center for Appropriate Technology, a Tucson nonprofit that promotes alternative building techniques.

"For straw-bale, the challenge is finding ways to really optimize the construction systems so builders, contractors and developers can build them well and make money doing it."