

Creative entrepreneurs keep finding more uses for versatile bamboo

By [CECELIA GOODNOW](#)
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Imagine building your house with bamboo studs and outfitting your kitchen with mass-market bamboo cabinets from your local big-box store.

We're not there yet, but that day is coming, as creative entrepreneurs find ever-more uses for this versatile, fast-growing grass.

Already bamboo has found its way into floors, cutting boards, stairs, snowboards, bicycle frames and furniture panels.

The fibers are even used in textiles, creating fabrics that are antibacterial, absorbent and surprisingly soft. Look around and you'll find sheets, towels, T-shirts -- even luxurious "vegetable cashmere" sweaters -- made from bamboo or bamboo blends.

Given its versatility and eco-friendly nature, it's easy to think of bamboo as a home decor cure-all. But not so fast.

While it's true that bamboo has some incredible properties, a lack of oversight means the industry is churning out a lot of poor-quality products. Hence, floors that dent, warp, delaminate and give off formaldehyde gas from cheap glues.

Glue toxicity is a special concern in food-related products such as bamboo cutting boards. Tom Sullivan of Totally Bamboo, the California company that invented them, suspended production for six months until he could offer a formaldehyde-free glue. He decries the lack of regulation on the issue.

How worried should you be if you have a cutting board of unknown provenance? Susie Craig at WSU Extension looked into it at our request, but found no guidelines. Since the boards are sealed, her guess is they're not too dangerous -- but who knows?

Even bamboo textiles vary widely in quality. The best ones use the plants' long, silky fibers, while cheaper ones often use pulp and stems in cotton blends that are softened with a silicone finish that diminishes the fiber's antibacterial qualities.



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Ann Knight, co-owner of Teragren, used bamboo cabinets by Henrybuilt in her home kitchen.

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For shoppers looking for bamboo flooring and other products, it's a jungle out there.

"There's a huge difference in quality from one provider to another," said Scott Hudson, co-owner of Henrybuilt, an upscale Seattle cabinet and furniture manufacturer that works extensively with bamboo. "There are really only two or three good sources."

Hudson, who started the company in his Vashon garage, settled on a supplier after building dovetailed test boxes with bamboo supplied by several of the most promising companies. He settled on Teragren, a manufacturer and importer based on Bainbridge Island.

Originally called TimberGrass, Teragren is one of the nation's largest manufacturers of bamboo flooring, panels and veneers, and its business is growing by 50 percent a year.

Owners David and Ann Knight belong to the U.S. Green Building Council and Business for Social Responsibility. In order to control quality, environmental impact and fair treatment of workers, they work closely with a single factory group in China's Zhejiang Province.

Teragren's "moso" bamboo -- one of some 1,500 species -- is plantation-grown, then harvested and processed to the Knights' specifications. No one has yet perfected a formaldehyde-free flooring glue, but Teragren's glues come close and easily exceed OSHA and European standards.

You can see an example of their flooring at the Seattle Public Library, which installed 10,000 square feet of Teragren's vertical-grain, natural-color bamboo in its Children's Library.

The Knights are so sold on this wonder-grass that they recently installed bamboo cabinets in their own kitchen, at a cost of about \$20,000. The European-style cabinets, made by Henrybuilt, feature Teragren's vertical-grain, caramelized bamboo.

To understand where some manufacturers go wrong -- and to protect your pocketbook -- it helps to know a little about bamboo, the grass that performs like a hardwood.

The plant requires minimal pesticides (theoretically), grows as much as a foot a day and produces new stalks, or culms, after harvest. It requires five or six years to mature, at which point the fibers are harder than white oak. Many companies jump the gun, however, and harvest at three years. The resulting floors are as soft as fir. The growing plant suffers damage as well.

"If you harvest the bamboo too young," David Knight said, "(the product) isn't as good, but it also damages the root stock."

Manufacturers make floor planks by splitting the culms lengthwise into 1-inch-wide slats that are processed and laminated together. When the slats are glued wide side up, you get face grain (also known as horizontal grain or flat grain). When the slats are placed on

edge before laminating, you get "edge grain" or "vertical grain." Prices vary widely, but expect to pay about as much as you would for a hardwood floor.

Whether the resulting product is eco-friendly depends on many variables: Was the land deforested to plant the bamboo? What kind of glue does the factory use? How does it dispose of its waste? (Teragren uses its sawdust to fire its boilers.)

Shoppers may have no way of knowing, because many distributors get bamboo products from a shifting array of mom-and-pop manufacturers.

"Are they truly a green building product if you don't know what's going in them?" Ann Knight asked rhetorically.

It's a growing concern nationally -- one echoed in a 2005 report by Dovetail Partners, a Minnesota non-profit.

"Investigation reveals many environmental concerns with growing, harvesting and converting bamboo to useful products," it says. "Clearly, the green status currently accorded bamboo products needs serious re-evaluation."

The report notes, for instance, that while bamboo doesn't need much pesticide or fertilizer, many growers use them extensively "to obtain the kinds of yields often cited in promotional literature."

Until manufacturers create an independent rating system, something the Knights say they're pushing for, shoppers should keep some basic facts in mind.

First, even good-quality bamboo flooring isn't bulletproof, even if it outscores oak on the hardness scale.

"We are very clear that all floors dent," said Mikey McAllister, manager of Bamboo Hardwoods' retail store on Roosevelt Way. "Some people have a misunderstanding about bamboo -- they think it's like iron."

Secondly, natural, blond bamboo is harder than caramelized bamboo, which derives its warm color from sugars that are released when the bamboo is pressure-heated. Consumers like the look, but the heating softens the fibers. That's not necessarily bad, depending on the effect you're going for.

You'll hear conflicting stories, but Teragren is adamant that face-grain bamboo is harder than edge-grain. Most agree that factory finishes are harder than on-site finishing.

Obviously, the bamboo industry has some issues to work out. Hudson at Henrybuilt likened it to where plywood technology was in the 1920s and '30s.

But look where plywood is today. How did we ever live without it? Expect bamboo to make a similar great leap forward.

"It's beautiful, it's durable, it's renewable," Ann Knight said. "How can you beat that?"

"It's driven by economics now," David Knight said. "This is a trend, not a fad."

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