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Some bamboo floors aren't quite as green

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Bamboo has quickly become the flooring of choice for green-minded builders in the United States. It's hard. It's durable. And it renews itself within seven years.

Compare that with pine, which might need 25 years to mature, or oak, which takes even longer.

To many, it's a no-brainer. But is bamboo really as environmentally friendly as it's purported to be?

It certainly meets the criteria of rapid renewability. But not all bamboo flooring is produced the same way. One good way to tell if proper care has been taken is to look at the price.

Another way, as some suggest, is to have a third party develop standards for the socially conscious cultivation of bamboo.

Some 1,400 species of bamboo exist in the world, but the variety most commonly used in flooring is called moso bamboo, or *phyllostachys pubescens*. It primarily grows in China and is much thicker than *arundinaria gigantea*, a native U.S. species that can make for a nifty fishing pole.

Moso bamboo can grow twice as tall as a telephone pole and just as thick. (You may recall its featured role in the movie "Crouching Tiger, Hidden Dragon.")

A forest of bamboo is essentially one living organism all connected to the same root structure. Technically, bamboo is a grass, not a tree, and can be lopped off at ground level only to sprout new shoots from underground.

Those tender shoots can be harvested as food, said Robert Saporito, owner of Tropical Bamboo Nursery in Loxahatchee, Fla. But some of the shoots must be left to grow, otherwise the whole

organism will be less vigorous. The maturing culms, as they are called, can be harvested for use as a building material years later.

In some areas of China where bamboo flourishes, it blankets mountains and valleys to create what's called the bamboo sea.

In Ohio, Seymour Ellis got hip to bamboo while selling European wood into China during the 1990s. Now, his company uses two factories in China to supply his BamStar brand, which is manufactured to his specifications. That includes using bamboo that's 5 to 7 seven years old and adhesives with very low levels of formaldehyde.

To make the flooring, the outer wall of the bamboo is cut into strips and straightened. It's then boiled in water and boric acid to kill any bugs or fungus. The strips are kiln dried, glued and laminated, tongued and grooved and then coated with aluminum oxide and urethane.

Teragren, based in Bainbridge Island, was an early importer of bamboo flooring, starting in 1997. It expects global sales of all its bamboo products, primarily flooring, to have increased from \$13.6 million in 2006 to about \$20 million for 2007. More than 90 percent of those sales are in the United States. Like Ellis, Teragren uses only bamboo of sufficient age, as well as adhesives with low amounts of formaldehyde.

But some importers are not as conscientious, they said, and you can often tell by the price that's charged.

Teragren's flooring retails between \$6 and \$8 per square foot, while a competitor who cuts corners may peddle its brand for half that price, said David Knight, co-founder and chief executive officer of Teragren.

One characteristic of cheap bamboo flooring may be that the bamboo was harvested after only three years, which means it didn't have enough time to harden. It also may contain Chinese adhesives, which have greater formaldehyde content than European brands.

Ellis and Knight both believe an international grading system should be developed so that consumers know exactly what they are getting.

Jim Bowyer, director of the responsible materials program at Dovetail Partners, a Minnesota group that monitors forest management, believes the world demand for bamboo has encouraged some irresponsible growing practices.

Bowyer believes a monitoring system akin to the Forest Stewardship Council is needed. The council certifies forests around the world to make sure they are being managed responsibly.

While bamboo-harvesting issues may exist, the renewable aspect of bamboo makes it superior to other reasonable substitutes, according to Taryn Holowka of the U.S. Green Building Council. The council's Leadership in Energy and Environmental Design rating system embraces bamboo.