



Paul Kolley

Roald Gundersen built this home in 1993 using whole, unmilled trees as structural elements. He founded Stoddard, Wis.-based Whole Trees Architecture & Structures in 2007 along with his partner, Amelia Swan Baxter.

## Arboreal Builder

Architect learns inner secrets of trees to build homes

Roald Gundersen is a forester/architect with a background in environmental design, and the *New York Times* has said he “may revolutionize the building industry.” The reason? Gundersen is charting new territory in architecture by using whole trees as structural elements in his residential and agricultural buildings. That’s right, no milling—just a little bending, debarking, trimming, and cutting to fit, which he says results in roundwood that is stronger than sawn wood. Speaking to millennia of natural selection, Gundersen says, “Trees have an engineering structure developed over a very long time, so we have a lot we can learn from them.” He’s not just waxing philosophical—his ideas are backed by science. According to research conducted by the USDA’s Forest Products Lab in Madison, Wis., a whole, unmilled tree can support 50 percent more weight than the largest piece of lumber milled from the same tree. “A tree is very different from wood,” Gundersen says, waxing a little metaphysical. He practices sustainable forestry on a tract of land near Stoddard, Wis., from which he harvests his building materials. In the end, he holds a view on forestry that any eco-conscious and business-minded individual can appreciate. By culling thinner trees for his structures, “we’re increasing the stand” and giving the forest value, he says. “Our forest is more like a garden than a mine.”—D.D.