

## **Natural Trees Don't Present Fire Hazard at Holidays**

By: SUNY College of Environmental Science and Forestry  
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Fresh, fragrant holiday trees are no more of a fire hazard than artificial greenery, provided they are watered regularly, according to research done at the SUNY College of Environmental Science and Forestry (ESF).

Dr. Russell Briggs, an ESF professor at the SUNY College of Environmental Science and Forestry (ESF), said his study of 184 fresh-cut trees dispels the notion that natural trees are a fire hazard.

"The bottom line is if you keep your fresh-cut trees in water, the moisture content stays at 100 percent or more," said Briggs, who worked on the project with Dr. Lawrence Abrahamson, a senior research associate, and then-graduate student Sara Stebbins. "If you put an open flame up to a tree, you can't burn it when the moisture content is up that high. The flame goes out."

Briggs' study was funded by the New York Christmas Tree Growers Association, with help from the Mid-Atlantic Christmas Tree Growers Alliance and the Massachusetts Christmas Tree Growers Association.

For six weeks one winter, Briggs kept 184 trees in the Youth Building at the New York State Fairgrounds in Syracuse. They represented five species that are popular as Christmas trees: balsam fir, Fraser fir, Douglas fir, Scotch pine (sometimes called Scots pine), and white spruce. Some trees were in buckets of water and others sat on the floor.

Needles from all of them were clipped regularly by Stebbins. The needles were weighed, then dried in a laboratory oven. Then they were weighed again, to see how much moisture they had lost.

By comparing the weight of the tissue to the weight of the moisture, Briggs determined the moisture content. When the two weights were equal, the moisture content was 100 percent.

"If you bring something off the lot and you don't take care of it, you're asking for trouble," Briggs said. "If you start with a fresh-cut tree and take care of it, you're golden. It will take a flame thrower to set that thing off."

Some of the trees were actually budding after spending six weeks in buckets of water inside the heated building.

On the other hand, lack of water clearly presents a problem. "If you bring them inside and don't give them any water, in two or three weeks, you get to the danger point. When they get down below 65 percent moisture, you can get ignition," Briggs said.

Trees that were given no water for six weeks were down to 20 percent moisture content. "Those are the ones that make great firewood," he said.

Briggs defines "fresh cut" as a tree that is cut within a week or two of purchase. But a tree cut even earlier can still be safe, provided it has been kept outside and has not dehydrated.

His study included some trees that stood on lots through the holiday season without being sold. He tested them after Christmas and they were still moist enough to be considered safe.

Once a tree is harvested, the cut seals, much as a scab forms on a human, he said. Thus the tree can retain its moisture as long as it is stored in a cool place protected from the wind and sun. If the trunk is trimmed again when it is brought into the buyer's home, it should stay healthy through the season.

Briggs acknowledged the difficulties faced by tree buyers who live in large cities, a long distance from forests and tree farms. "Your best bet is to work with a reputable Christmas tree grower, or to know the history of whence your Christmas tree comes," he said.