



UConn Home & Garden Education Center



The Greenest Christmas Tree

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Many people each year consider whether to purchase a real or an artificial Christmas tree for the holidays. Both types have pros and cons and it is difficult to come up with a definite answer on which ones are more environmentally friendly or “green”. Trying to compare the environmental impact of real and artificial Christmas trees ends up raising more questions than it answers. In 2016, approximately 18.6 million artificial trees were sold in the United States, double the number that were sold in 2006. Many people choose artificial trees for the convenience: no messy needles to clean up, no watering, and they will look nice from Thanksgiving until after New Year’s. Cost is another factor. An artificial tree can be purchased for about the same price as 1-2 live trees and can last for many years. Others choose a real tree because they enjoy the scent, it’s more traditional, or going out to select a tree is often a special family event. But which one is “greener”?



Real tree vs. artificial

Most artificial trees are made in China and must be shipped from there to retailers. They are made of polyvinyl chloride (PVC), a petroleum-based non-renewable resource, steel, aluminum, and cardboard for packaging. The manufacture of PVC results in the emission of harmful chemicals such as dioxin, ethylene dichloride and vinyl chloride. Some trees contain lead and bear warning labels for that.

Proponents of artificial trees also point out that the transport of one artificial tree may use less petroleum than ten years of transporting live trees. This cost is difficult to calculate and points out that both industries must transport their products using nonrenewable resources. It is also claimed that the chemical risk posed by the raw materials used in artificial trees may be less than that from pesticides applied to real Christmas trees.

What about the environmental impact of real Christmas trees?

Before a young seedling even makes it to the tree farm, energy is invested in sowing, watering, and shipping. Most seedlings are grown outside in nursery beds but some are grown in plastic containers. Once at the farm, energy is used for maintenance such as planting, mowing, chemical application, shearing, and harvesting and followed by transport. To be more environmentally friendly, some Christmas tree farms use only organic chemicals. But while all this maintenance is going on, those trees help to sequester carbon dioxide and produce oxygen. One acre of harvestable trees can produce enough oxygen for 18 people. A Christmas tree plantation also provides habitat for wildlife and captures particulate matter (dust, etc.) in the atmosphere. Real trees are a renewable resource although it takes seven to ten years in the field to produce a 6-7' Fraser fir and nine to ten years for a Balsam fir. For every Christmas tree that is harvested 1-3 new trees are planted to replace it. When it's time to dispose of a bio-degradable real tree it can be recycled into mulch or compost and allowed to decompose, returning nutrients to the earth.



Another benefit to buying a real Christmas tree is the support of the local farmers and economy. Approximately 350,000 acres of land are devoted to Christmas tree farming in the United States. There are more than 15,000 farms ranging in size from small family-owned operations to large commercial growers. The 2016 harvest of 27.4 million trees had a retail value of more than \$2.04 billion.

So which is the best choice? When considering both the environment and the economy, the evidence seems more in favor of the real tree but the answer is not clear-cut and both types have their pros and cons. Whichever type of tree you choose you can lessen the impact on the environment and be “greener”. If you choose a real tree consider a live tree that can be planted outside in the spring or buy a tree that was grown organically and/or locally. An artificial tree's environmental impact will be equivalent to an organic tree if you extend its use to 6-9 years before discarding it. If you are ready to dispose of your artificial tree and it is still in good condition, consider donating it before sending it off to the landfill. Whatever your choice, remember to enjoy the holidays!

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