

# The great Christmas tree debate: Is it better to buy a real tree or a fake one?

December 17 2019, by Warren Mabee

---



Credit: AI-generated image ([disclaimer](#))

It's the holiday season again, and in the midst of making to-do lists and prepping for festive dinners, some people will once again ponder whether it is better for the environment to [buy an artificial Christmas tree or to opt for the real thing](#).

It's a good question to ask. We're in the midst of a [climate emergency](#) and are becoming increasingly aware of our environmental impact.

Many of us are more likely to think about [climate](#) change when making purchases through the year. It makes sense to wonder if leaving trees in the ground to continue growing might not make a better contribution to the fight against climate change.

## **A decade to grow or keep**

A natural tree of average size (2-2.5 meters tall, 10-15 years old) [has a carbon footprint](#) of about 3.5 kilograms of carbon dioxide equivalent (CO<sub>2</sub>e)—about the same as driving a car 14 kilometers.

This footprint increases dramatically if the tree is sent to landfill. When it decomposes, it will produce methane, a more potent greenhouse gas than carbon dioxide, and generate a much larger footprint—close to 16 kilograms of CO<sub>2</sub>e. If the tree is [composted or recycled](#), a common practice in many major cities—the environmental footprint remains low.

By comparison, a [two-meter tall artificial](#) tree has a [carbon footprint](#) of about 40 kilograms CO<sub>2</sub>e based on the production of the materials alone.

Different types of plastics are used in artificial tree products. Some, like [polyvinyl chloride](#), are very difficult to recycle and should be avoided. Polyethylene trees, which [tend to look more realistic](#), have higher price tags.

The vast majority of artificial trees are produced in China, Taiwan and South Korea. Shipping from these distant factories increases the trees' carbon footprint.

An artificial tree has to be re-used for 10-12 years to match the footprint of a natural tree that is composted at end of life. Even then, recycling the materials in artificial trees is so difficult that it is not common practice. Some [old trees can be repurposed](#), but most artificial products will end up in a landfill.

## **Burning trees**

This gives ecologically minded Canadians some sense of the impacts of their choice. But other factors are also at play. Real trees are [becoming scarce and more expensive](#). In the United States, the average price of a real tree in 2019 has [increased to US\\$78 from US\\$75 in 2018](#).

Weather has taken a toll on Christmas trees. In the U.S., hot weather and too much rain are considered contributing factors to a [shortage of trees](#), and wildfires [damaged or destroyed some farms](#). Heat waves in 2017 and 2018 killed [young seedlings in Oregon](#) and will impact tree supply in years to come.

In Canada, consumers who want natural trees have been [warned to shop early](#), as many sellers have limited inventory due to fire, frost and insect damage that has accelerated over recent years.

Climate change will likely exacerbate these factors and could drive up the price of trees for years to come. Researchers have found that certain pests, like the [balsam twig aphid](#), already a major pest in the Québec Christmas tree industry, will likely increase in a warming climate and harm commercial fir plantations.

## **Oh, Christmas tree**

Economics has also played a role in tree availability. Today's trees were

planted around the time of the Great Recession of 2008.

The impacts of this economic downturn were far-reaching in the industry. As demand fell during those years, [many growers went out of business](#). This reduced the number of trees planted and contributed to the scarcity in today's Christmas tree marketplace.

The Canadian Christmas Tree Growers Association has shrunk dramatically in the past 15 years —from [300 members to about 80 today](#).

Is it time to give up on real Christmas trees?

Holiday trees provide [wildlife habitat, protect soil, moderate floods and drought, filter air and sequester carbon while they grow](#). Tree farms also provide local economic benefits that don't come with foreign-made products.

The changing climate may not mean the end of holiday trees. Studies carried out in the Appalachians suggest that trees at [lower elevations](#) may be more likely to suffer from pests and damage as climate change progresses. They also found that tree farms at higher elevations may [benefit from a longer growing season](#).

Research into [the effects of temperature and precipitation extremes on cone formation](#) may help growers maintain or enhance tree growth in response to changing environmental conditions. Forward-looking Christmas tree farmers may start planting [a greater diversity of tree species](#) to weather the impacts of [climate change](#).

It is clear, however, that holiday trees face increasing risks from a changing climate and not all producers will be able to adopt cutting-edge methods; some will not choose the right [trees](#).

Most Christmas tree operations in Canada are family businesses without deep pockets, and the costs of relocating tree farms to more friendly climes or higher elevations may put others out of business. The cost of a Christmas tree will likely continue to rise in the future.

This article is republished from [The Conversation](#) under a Creative Commons license. Read the [original article](#).

Provided by The Conversation

Citation: The great Christmas tree debate: Is it better to buy a real tree or a fake one? (2019, December 17) retrieved 16 August 2024 from <https://phys.org/news/2019-12-great-christmas-tree-debate-real.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--