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Going green: the choice of a Christmas tree

Every year, December is the month connected with Christmas celebrations. A Christmas tree is associated with this time of the year and plays a large part in the festivities. We decorate, exchange gifts, and celebrate with friends and family around the Christmas tree. Since it's so central to celebrations year after year, it's important to have one that not only suits your lifestyle, but also stands tall season after season. When the time comes to choose a Christmas tree, which one will you select: a natural conifer (fir, spruce, pine) or an artificial one? In this article, I will cover the main points you will have to think about in order to help you make your choice and I will give you some tips for keeping your natural tree in good health.

If you consider purchasing a natural (or real) Christmas tree, the main issue you will have to consider is its cultivation. The vast majority of these trees are cultivated on lands dedicated for this purpose. Like other crops, these conifers require a specific set of nutrients to thrive and grow and also require well-drained soil (when you cut a Christmas tree, more than half of its weight is water). The application of an herbicide and some types of fertilizers is done prior to planting conifers in the field. Note that these chemical products (including pesticides such as glyphosate) are utilized in the processes of cultivation and an average Christmas tree receives about 14 grams of pesticides over its lifetime. Harvesting time must be completed

in November (before the first snow) and the majority of farmers sell their trees to you under a recognized grade of quality.

If you consider purchasing an artificial Christmas tree, the main consideration you will have to pay attention to, is its fabrication. Many different types of artificial Christmas trees are fabricated throughout the world: the first type, also the oldest, was initially made of green-dyed goose feathers that were attached to wire branches that were wrapped around a central rod (acting like a trunk). Presently, brush bristles have replaced feathers and have made them less flammable. The second type is made from polyvinyl chloride (PVC) plastic and are called pre-lit trees. They are referred to as such because these artificial Christmas trees come pre-wired and strung with lights, which cannot be removed and are usually embedded with the branches. The main toxic substances associated with the lights attached to these trees are lead, mercury, cadmium and chromium. Note that the principal material used in the manufacture of these trees is classified as carcinogenic by the International Agency for Research on Cancer and can contain harmful additives (such as phthalates, which are endocrine disruptors). Also, these trees can contain flame-retardant chemicals which are linked, with infertility and disruption of the thyroid gland, among other effects. The aluminum artificial tree (with foil needles) is another type, but it's not very popular. Other types of artificial trees can be found on the market, depending on the trends of society: fiber-optic trees, holographic Mylar trees, etc.

In both cases, you must take into account the environmental impact of your choice. A life cycle assessment, made by a firm of experts in sustainable development, states that a natural tree will generate 3.1 kg of greenhouse gases whereas an artificial Christmas tree will produce 8.1 kg/year. But if you reuse an artificial tree for at least four years (the best option is to keep it for nine years), its carbon footprint will be smaller than if you purchase a real tree every year. By the way, there are other issues to consider if you want to use a real Christmas tree (such as mould or allergies). Also note that even an organic artificial Christmas tree may not be considered as a fully nontoxic Christmas tree.

The best choice between a natural or an artificial tree depends on your need. If you want to buy a Christmas tree without PVC and flame retardants (a less toxic artificial tree), IKEA offers three different sizes; these are very useful, healthy options especially since we have our windows shut during winter and it is not easy for the chemicals to leave the home.

The American Christmas Tree Association (ACTA) gives you four helpful tips to consider when you decide which tree to buy:

1. If possible, purchase a locally grown (or locally made) Christmas tree;
2. Consider the length of travel of your Christmas tree from where it was produced to your home;
3. If you own an artificial tree, make sure to keep it in use for many years. If you plan to replace an artificial tree, donate it before you dispose of it;
4. If you choose a natural tree, consult your local waste authority to know about how to properly dispose of your old one.

The National Christmas Tree Association (NCTA) shares some tips with you to care for your farm-grown Christmas tree:

- To display it indoors, use a stand that should provide one quart of water per inch of stem diameter;
- Make a fresh cut, perpendicular to the stem axis, to remove about a half-inch thick disc of wood from the base of the trunk before putting the tree in the stand;
- Check the level daily to be sure that the level of water in the stand doesn't go below the base of the tree;
- Keep trees away from major sources of heat and use decoration lights that produce low heat, such as miniature lights or light-emitting diodes (LED).

Finally, here are two tips from Louise Robitaille that will prolong life and beauty of a natural Christmas tree

- Keep the tree outside, sheltered from drafts, until the decoration time;
- When you install it in the house, pour hot water in the base. This will make the water rise more quickly in the trunk. Subsequently, use cold water with a little bit of sugar or a few drops of glycerin or a mixture of equal parts of hot water and ginger ale.

Online links (in English and in French):

- LCA Christmas tree, by Lorraine Simard, Ellipsos, stategists in sustainable development, press release published on December 16th 2008, https://web.archive.org/web/20121201035904/http://www.ellipsos.ca/modules/news/article.php?storyid=9&lang=english
- Best non-toxic Christmas tree options, by Irina Webb, I read labels for you, helping you live healthy, Safe home, updated on November 8th 2019, https://ireadlabelsforyou.com/living-christmas-non-toxic-christmas-tree/
- How to care for your farm-grown Christmas tree, prepared by Dr. Gary Chastagner and Dr. Eric Hinesley; edited by the National Christmas Tree Association, copyright from 2020, https://realchristmastrees.org/all-about-trees/care-tips/
- Christmas tree cultivation, Wikipedia, the free encyclopedia, last modification made on June 7th 2020, https://en.wikipedia.org/wiki/Christmas_tree_cultivation
- Pre-lit tree, Wikipedia, the free encyclopedia, last modification made on June 15th 2020, https://en.wikipedia.org/wiki/Pre-lit_tree
- Artificial Christmas tree, Wikipedia, the free encyclopedia, last modification made on June 28th 2020, https://en.wikipedia.org/wiki/Artificial_Christmas_tree
- The Only Non-Toxic Christmas Tree I've Found- PVC & Flame Retardant Free, All-Natural Savings, published on October 12th 2020, https://allnaturalsavings.com/the-only-non-toxic-christmas-tree-ive-found-pvc-flame-retardant-free/
- Trucs sur le sapin de Noël pour avoir le pouce vert, Le manuel de la maison propre - Les meilleurs trucs de Madame Chasse-Taches, Louise Robitaille, page 193 of 245, 2020, Les Éditions du Journal