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What are burls and how do they affect trees?

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On Thursday, April 20, 2023 - a cool, dry, sunny, and windy day - at 10:26 A.M., I was out in the North Hampton School Woods, North Hampton, New Hampshire when I saw a tree with several random bumps along the trunk. The bumps were round and appeared rather smooth. Some of them had openings and they seemed hollow at first glance. There were other trees with similar bumps, but many did not have these. Most of the bumps I saw were of similar sizes, which is something my research did not address.

Upon further research, I learned that these bumps were called burls, but go by many different names, including callus tissue (Grundmann). However, the term burl may be too broad as it means any “anomalous or unusual woody structure with a swirled grain,” and lignotuber is a bit more specific, only applying to “ontogenetically produced structures” (James). Burls appear on the trunk of trees, rather than on branches (“Harmful growth?”). According to Stephens, they are a “large, knobby growth on a tree trunk... and [are] covered in bark.” Nonetheless, while they may have an odd appearance, they don’t have a large effect on the tree’s overall health and if one were to cut off a burl, they might harm the tree greatly, as burls are a tree’s response to injury and cutting it off would be “like making a wound that the tree can’t seal off... [and] you’ll be left with a burl-sized wound with wood tissue that’s wide open to pests and pathogens for many seasons” (Grundmann). Burls are typically caused by abnormalities in cell growth, which in turn, may be caused by stress or injury to a tree, but experts are not sure exactly what causes these. (“Harmful growth?”). Investigations into burls that have been conducted concluded “that the wood contains dormant buds, carbohydrates, and nutrients necessary for bud development” (James).



Despite the answers to my original queries, new questions have come up. What makes a tree likely to produce burls? Could it be the environment, the kind of tree, or just a coincidence? I was also wondering about how long it might take for a burl to grow and the weight of burls? Following that, is there a limit on the amount of burls that can be on a tree before no more can grow or the tree can no longer hold the weight of the burls? I can probably answer most of these questions with further research into the background of trees with burls by finding patterns in the data that may prove or disprove initial wonderings.

WORKS CITED

- Grundmann, Bill. "What is a Burl? Description, Causes & What To Do." *Organic Plant Care LLC*, 17 November 2019, <https://organicplantcarellc.com/what-is-a-burl/>. Accessed 3 May 2023.
- "Harmful growth?" *American Forests*, vol. 118, no. 4, winter 2013, p. 4. Gale In Context: Middle School, link.gale.com/apps/doc/A317075722/MSIC?u=nhais_1041&sid=bookmark-MSIC&xid=0ae2d38a. Accessed 3 May 2023.
- James, Susanne. "Lignotubers and burls— their structure, function and ecological significance in Mediterranean ecosystems." *springer.com*, 29 July 1984, <https://link.springer.com/article/10.1007/BF02862633>. Accessed 3 May 2023.
- JLS Photography. (n.d.). Burls on Black Spruce Tree. Flickr. <https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.flickr.com%2Fphotos%2Fakgy37%2F34738319320&psig=AOvVaw0FiCcwOk27ZQ2HWUrss0D&ust=1683209595089000&source=images&cd=vfe&ved=0CBAQ3YkBahcKEwjg94W2rNn-AhUAAAAAHQAAAAAQCA>
- Stephens, Dallas. "Lumps and Growths on Trees: What Do They Mean?" *treekc.com*, January 24 2022, <https://www.treekc.com/company-blog/lumps-and-growths-on-trees-what-do-they-mean#:~:text=Burls,as%20a%20rampant%20disease%20would>.