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Brantson L

Northampton school, New Hampshire

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Sap On Maple Trees

On November 3rd 2021, at 1:20 pm on a sunny 55 degree day I was walking through my backyard woods in North Hampton, New Hampshire. I was looking around and the area around me was covered by trees and I could barely see my house. After a while I was touching a few maple trees and felt there was a lot of sap on the trees and it made me wonder. Why was there a lot of sap on trees? Then I touched a few different types of trees and they didn't feel the same as the maple trees which felt kind of sticky and a little rough. This made me wonder why mostly maple trees give off sap.

In the article “Why are maple trees tapped to make maple syrup” it states “Sap flow in maple trees is generally the result of fluctuating temperatures coupled with positive and negative pressures that develop inside a dormant maple tree in response to early (Kidd 2). Also in the article it says “When temperatures again rise above freezing a positive pressure resumes and sap flows out of the tree (Kidd 3). These statements prove that the only reason why maple trees get tapped to sap is because their pressure is better than the other trees. We learned in class that maple trees give off more sap is because of photosynthesis when carbon dioxide, water, and energy the enter the leafs pores and enter the chloroplasts and go through a process called photosynthesis which then will either come out as a output which could be oxygen, carbohydrates, and glucose it can also go into the trees storage system so the tree can live and survive throughout the winter months. Then through those winter months that tree goes through cellular respiration.

Since I learned that sap is better from maple trees, I wonder why it still takes a while for sap to produce if you're at the starting stages waiting for the sap to come out of the tree and into the bucket or whatever you're using for a collection system. What I would do to answer this

question is I would go out and watch sap produce multiple times and record how long it would take for it to fill up a 16oz of a bottle to see how long it would take and use different trees and record their atmospheric pressures, so I have multiple different tests. And then if what the article said was true maple trees would be the best to do with fluctuating positive and negative pressures.



Works cited

Extension, Michigan. "Why Are Maple Trees Tapped to Make Maple Syrup?" *MSU Extension*, 14 Mar. 2013, https://www.canr.msu.edu/news/why_are_maple_trees_tapped_to_make_maple_syrup

https://commons.wikimedia.org/wiki/File:Collecting_maple_sap_in_plastic_bottles.jpg

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