The Correlation between Oleoresin Production in Pine Species with the Number of Resin Canals They Produce, Year Five

Tucker, Holly

This experiment determined if there is a correlation between the number of resin canals and the production of resin in various pine species. The species were selected based on their commercial value. Three sample sites of thirty trees, based on similar age, size, stocking, and soil type were chosen from a range of diameter representing the stand, flagged, and numbered. Micro-cores were collected, from the sample trees, tapped and test tubes were then attached to collect resin. Resin was collect at 24, 48, 96, and 144 hours which later were weighed to determine resin production. Once collected, the samples were taken the University of. The micro-cores, from each sample tree, had the resin extracted using acetone. Digital images of their annual growth rings and radial resin canals were made using a μ CT scanner. From each image the outer ring width and number of resin canals were measured. As to date, data from all 360 resin samples and 150 of the μ CT images have been completed. At this time, additional processing and analyzing of the P. taeda is being completed. Until data from these samples are processed analyzed no conclusive decision should be made. However, after analyzing the existing data the following observations can be made. Resin production in the P. elliottii (High Gum yield) is 37.9% more than P. elliottii and 79.6% more than P. taeda, and P. elliottii's resin production is more the twice than that of P. taeda. Since both are of the same species we can conclude there are other variables that influence resin production. Comparing the number of resin canals of P. elliottii (High Gum yield) to P. elliottii, no correlation was seen. At this time using existing data, no conclusion can be made between P. elliottii and P. taeda, so my hypothesis is inconclusive.

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