



April 29, 2016

Dear Young Living Members:

I want to take a moment to update you on our latest findings regarding Young Living's Cinnamon Bark Oil.

On April 7, 2016, we issued a synopsis of our Cinnamon Bark Oil analytical testing. In that synopsis, I pointed out the fact that our highly trained team of analytical chemists found no evidence of synthetic adulteration in our product. These findings were corroborated by two highly respected independent laboratories. We stand by those findings.

Since I issued that report, our team has continued to look into this matter. In addition to continuing to analyze our oils, we have held meetings with some of the world's leading experts on Carbon-14 analysis. These are the same experts who used this technology to identify the "shoe bomber" and identify the suspect behind the 2001 Anthrax scare. We've also secured samples of the raw cinnamon bark, distilled it in our own lab, and analyzed the oil so that we could compare the results to those of the cinnamon bark oil that is available to our members. We now have even more data to support our conclusions.

We promised to review an item from the ChemTech-Ford report, which identified a chromatographic peak as 1,2,4,5-tetramethylbenzene (commonly called Durene). We have now been able to confirm that this peak is actually a cymene isomer, which is a common component of cinnamon bark, as well as other essential oils. Compounds such as this can be misidentified depending upon the library used.

Laboratories have "libraries" of data stored within their chromatographic computer systems. These libraries are often purchased from the instrument manufacturers and are then supplemented with data generated over years of testing in the particular lab. When a lab is relatively new, the library tends to contain only those compounds loaded by the manufacturer. Also, different libraries can be purchased or built up based upon the type of analyses the lab typically performs; so if a lab performs petrochemical analyses, the library will be loaded with lots of petrochemicals, and if a lab does environmental analyses, the library will be loaded with lots of chemicals that are significant for environmental testing.

When a GCMS test is run, the computer will analyze the output and attempt to match it with whatever is contained in the library. Thus, it is very important to use the appropriate libraries when interpreting data. **It is even more important to have scientists with the training and experience to correctly interpret the data.**



Because Young Living is one of the oldest and most experienced essential oil companies, we have the most extensive essential oil library, and this is of tremendous advantage in accurately identifying components of essential oils.

I would also like to address a report that was posted on Facebook regarding a Carbon-14 analysis of Young Living's Cinnamon Bark Oil.

Carbon-14 testing, or radiocarbon testing, relies upon the fact that plants take in Carbon-14 from the atmosphere. As soon as a plant dies, it no longer takes in Carbon-14, so its Carbon-14 levels are "locked" at the time the tissue dies. The age of the tissue, or more appropriately it's time of death, can be measured from Carbon-14 testing.

Modern atmospheric levels of Carbon-14 increased from 1955 to 1963 due to nuclear bomb testing. Since that time, the levels have been steadily decreasing. Modern methods of Carbon-14 testing utilize something called the Fraction Modern Carbon reporting method. This method reports the Carbon-14 level in a sample relative to the background level pre-1960, which is set at 1.

According to recognized experts in the field, the Carbon-14 report copied on Facebook is an unconventional reporting method and is more typically used for ancient samples, such as the Shroud of Turin, not something that was harvested recently. We are working to better understand this unconventional methodology. Carbon-14 readings from old bark (or dead bark) will differ from young bark readings.

We obtained samples of the actual cinnamon bark from which oil is distilled by our partner farms. We also obtained samples from around the world for comparative purposes. We distilled these oils in our lab and performed complete analyses on each. These analyses confirmed that our Young Living specifications for *Cinnamomum verum* are correct.

Thus, we are confident in our ability to test these oils and in our ability to uphold the Seed to Seal promise.

Sincerely,

Dr. Mike Buch
VP of R&D & Product Management