

JOHN'S CORNER: NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS by John Ferguson

One of my weaknesses is dark chocolate and it comes from the South American evergreen tree (*Theobroma cacao*). The Loma Linda University Health Sciences Center has released data from two new studies that show dark chocolate reduces stress and inflammation, while improving memory, immunity and mood. The chocolate needs to have a high concentration of cacao (at least 70%) and 30% organic cane sugar. Cacao is a source of flavonoids which are extremely effective antioxidants and anti-inflammatory agents. Note: Cacao is not cocoa and the difference between cocoa and cacao exists far beyond mere spelling. These foods in powdered form sure look similar, but cacao is a raw superfood made by cold-pressing unroasted cocoa beans. The fact that cacao is raw (not processed or roasted, like cocoa) means the nutritional value in the living enzymes is retained and the fat (cacao butter) has not been taken out.

We continue to learn about the importance of root exudates, as a new study in the Vadose Zone Journal, 2018 has found. Researchers at the University of Aberdeen have found new ways to look and study root exudates. Roots continuously produce chemicals (exudates) into the soil as a method to liberate nutrients from soil particles (this may be done directly or indirectly via microbes in the soil). The exudates from plants function as equivalent to gastric juices in humans. These exudates work at a microscopic scale to hold soil particles together as a type glue which then along with fungi and other microbes form aggregates. Note: When artificial fertilizers are used with soluble nutrients like phosphorus, plants DO NOT produce exudates. This leads to poor aeration and the formation of hardpan which favors disease and weeds.

A study from Aarhus University published in the journal Plant Signaling & Behavior 2018, has found that trees lower their branches at night often by several inches and raise them back in the morning. This phenomenon has been linked to variations in water pressure within the tree and effectively means the tree is pumping water. Some trees use a 12 hour cycle and other more or less. The Magnolia tree completes three full cycles of up and down movement in one night.

There is so much we do not understand about nature and how God designed our world. I am reading a new book on the Hidden Life of Trees that explains what they feel, and how they communicate. It is a



summary of all the new research on trees and forest systems and how they work. I will be sharing what I learn in future articles.

A study in the peer reviewed journal PLOS (Public Library of Science, 2018) has found that plant DNA genes can be transferred to humans. From four independent studies and over 1,000 human samples, they found meal-derived (food) DNA fragments that were large enough to carry complete genes. "Biotechnology companies like Monsanto have allowed for the transfer of genes from one to another without any regard for the biological limitations, or constraints". Studies have also shown that when humans or animals digest genetically modified foods, the artificially created genes transfer and alter the character of the beneficial bacteria in the intestine. The reasons to avoid GMO foods at all cost continue to increase. Note: if a product does not say "organic" or at least "GMO free" it is probably contaminated with GMO's.

Numerous times we have talked about how gardeners are exposed to many beneficial microbes and how it improves our health. Raw milk is filled with good bacteria, enzymes, immunoglobulins and nutrients. Research has now shown that children who grow up on farms and drink raw cow's milk are less likely to have allergies or autoimmune disorders as well. The enzymes in raw milk help our bodies absorb key nutrients better. Raw milk is rich in conjugated linoleic acid (CLA) a valuable fat. Pasteurization and homogenization destroys these benefits. One can learn more at www.food.news

Gardeners whom are stressed might consider growing the herb known as *Damiana* which is used to lower stress levels, boost sexual drive and other health benefits. This plant likes well drained soil and bright shade. It grows 2-6 feet tall with olive green leaves and bright yellow flowers. Damiana is related to the Tunera family of plants. The Dr. Mercola website has an article on how to grow and use this plant. We have known for years that the herbicide atrazine chemically castrates male frogs and possible other life. As little as 0.1 parts per billion (ppb) caused animals to have drastically lower sperm counts. This herbicide is commonly found in Weed & Feed products for our lawns. Many men are having erectile dysfunction issues, low sperm counts and are unable to father children, etc. I wonder how much of the men's health issues is related to using these products? This product is also responsible for many tree health problems and it pollutes much of the water systems in the country.

The Dr. Mercola e-newsletter had a article titled " **The Peril on Your Plate: Film Explores the Human Health Effects of Genetic Engineering and Chemical Agriculture"** on the dangers of eating and growing GMO crops. Below is the link to the video and article: https://articles.mercola.com/sites/articles/archive