

JOHN'S CORNER:

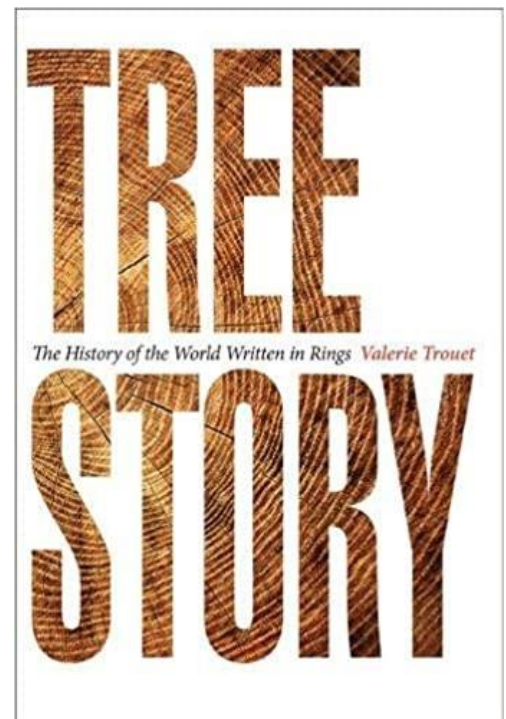
NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

Trees are an amazing plant and by studying them researchers gain a glimpse into our past climate. Over the last few years, we have learned that trees communicate with microbes in the soil and each other. We have learned that trees share resources with each other, and that mature trees will often care for young trees.

Trees have more to teach us, through the eyes of a dendrochronologist, trees are a living document with history recorded in their rings. I just ordered a new book on the subject by Valerie Trouet from the University of Arizona's Laboratory of Tree-Ring Research that looks very interesting.

Tree Story: The History of the World Written in Rings,
Released – April 21, 2020



When we are out working in the garden during the summer in the sun, we often get hot and overheated. Have you ever wondered why some plants do not overheat? Scientists at MIT published a paper in the journal Nature's Communications (2020) where they discovered one of the mechanisms plants use to protect themselves and cool off in addition to evaporative cooling.



www.natureswayresources.com

They found that plants have the ability to convert excess energy to molecules called carotenoids like lycopene and beta-carotene. These molecules are not only good for our health they have the ability to get rid of excess energy through extremely rapid vibration.

We are learning more about how plants communicate. A new study by the Salk Institute was published in the journal Nature Plants (2020) on how plants communicate danger. They found that a plant hormone jasmonic acid (jasmonate) found in many plants is used as part of their defense system against fungi and insects, is also a signaling agent to communicate danger to other plants.

Another study by researchers at Washington State University published in the journal Trends in Ecology and Evolution (2020), have confirmed that many of our cultivated plants have lost the ability to interact with soil microbes that help them collect nutrients and protect them from soil diseases. As a result, they are more disease and pest prone and require more fertilizer and water. This is another reason experienced gardeners are looking for natives and heirloom varieties of plants.

Another example of why we do not need GMO foods has been demonstrated by The French Agricultural Research Center for International Development (CIRAD). They have developed a 100% organic, disease resistant banana, that is Non-GMO. The banana called Pointe d'Or is naturally resistant to several diseases that have been destroying banana plantations around the world. I talked about this a little in newsletter issue #316 on November 8, 2019.



www.natureswayresources.com

Several states are now giving homeowners a financial incentive to remove their lawns, as lawns are an ecological disaster. A great way to be part of the solution to many of our environmental problems is to convert lawns into gardens or orchards to grow more of our own food. Lawns require a lot of work and expense hence many homeowners are removing them. A good article on the problems and ecological damage cause by lawns can be found at:

articles.mercola.com

Many of our readers know that agricultural molasses can be an effective insect pest deterrent. It seems the complex sugars in the molasses upsets an insect's digestive system.

Plants also have complex sugars in their sap. If the levels of these complex sugars are high, the insects do not eat the plant. However, if the level of complex sugars is low, insects are attracted to the plants to eat them.

There is an easy way that we can measured the level of complex sugars in our plants. By using a simple refractometer, one can measure the sugar level called a Brix reading. All one has to do is get a drop of sap (a garlic press works well to squeeze the sap out of plant tissue).

Place the drop of sap in the refractometer and read the results. If the reading is 0-2, then the plant is on its death bed and dying. If the reading is 3-7 it has a chance to recover and get healthy and insect resistant. When the sugar levels reach 8+ on the Brix index, the plant is healthy enough to produce secondary plant metabolites which provides the natural resistance to insect pests.

Secondary plant metabolites are also known to be the anti-cancer compounds found in food plants. If one wants to learn more about secondary plant metabolites and health,



www.natureswayresources.com

there is a good lecture by the nutritionist Jerry Burnetti that can be found on the Acres, USA website from a few years ago.

If the Brix levels reach 14 or more, not only will the pest insects and caterpillars leave it alone, the plant will have so much complex sugars in their sap that the plant becomes drought resistant and frost tolerant (sugar water will not freeze above 26 degrees).

Artificial fertilizers and over watering tend to lower Brix levels in plants. Good compost, trace minerals, and organic fertilizers raise the Brix levels in plants.

Several times over the last few weeks I have been asked about gardening and Covid-19. There have been numerous research papers on the benefits of Vitamin-D that we get when out in the sun gardening. A good summary of the health benefits can be found at the link below.

citizens.org

Numerous reports over the last few months have shown that to have a strong immune system to fight Covid-19 and other viruses, the body requires the elements zinc (Zn), Selenium (Se), Chromium (Cr), Magnesium (Mg), and a few others that are essential to fight off this disease.

When we did the study of the herbicide glyphosate (Round-Up) a few years ago we found that the original patent for Glyphosate was as a demineralizer to clean pipes (US Patent # 3,160,632). It would bind so strongly to these elements it would pull them off the walls of the pipes thus cleaning them.

When we eat foods with this herbicide on them, it ties up the nutrients (elements) we need for good health and prevents them from being absorbed by our bodies, especially those used by the human immune system to fight viruses like Covid-19 (assuming they

NATURE'S WAY RESOURCES

an organically based service company

www.natureswayresources.com

were there in the first place, as most of our food supply is deficient in these essential elements to begin with).

Hence, one of the best ways to protect our families is to avoid foods contaminated by glyphosate. The best way to do this is to buy organic certified products. Now there is a second way to protect our families and that is to look for food products that are certified free of glyphosate.

A report from the newsletter "Sustainable Pulse" titled, "Glyphosate Residue Free Certification Booms as Iconic Food Brands, SGS and SOINS Get Involved".





www.natureswayresources.com

“The Detox Project’s Glyphosate Residue Free certification for food and supplement products is growing fast in the U.S. and Canadian markets and has now received international support from SGS, the world’s leading inspection, verification, testing and certification company.

Some iconic brands have also joined the Glyphosate Residue Free boom recently including Chobani, PURIS (main suppliers of Beyond Meat), Once Upon A Farm and Organifi. Over 70 brands and 1500 products are now certified .”

The single best way to have a healthy immune system is to grow as much as we can of our own fruits and vegetables, organically as possible, on mineral rich soil.