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## **JOHN'S CORNER:**

### **NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS**

*by John Ferguson*

After the hard freeze a few weeks ago, it is nice to hear the birds singing and watching them build their nests. However, the USA has lost billions of birds over the last few decades that are an essential part of our ecosystem.

When most birds are laying eggs and raising chicks, they require lots of caterpillars as it is their primary food source (over 80% of their diet). Hence, we do not want to spray our plants with any poison whether organic or synthetic or we will hurt our birds.

To help our bird populations we need to think about what we are planting. One of the best ways to help our birds is to grow plants that provide caterpillars. One of the best plants to feed the caterpillars that then feed our birds, is the members of the Quercus family that we know as Oak Trees.

I recently read that there are 53 species of oak trees native to Texas and all of them are planted at the Ladybird Johnson Wildflower Center in Austin where they all can be seen. To learn more about the importance of caterpillars, an excellent book is "Bringing Nature Home - How You Can Sustain Wildlife with Native Plants" by Douglass W. Tallamy.

**We** often talk about why eating healthy food is important. During this period of Covid-19 issues we have learned a lot since it started over a year ago. People whom eat nutrient dense foods with lots of vitamins and minerals are far less prone to getting the disease. Conversely numerous studies and data collected from millions of people has found that those with the poorest diets are the most susceptible and the people that eat GMO foods with high levels of roundup on them have the highest risk factors.



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The Environmental Working Group (EWG) [released](#) on Wednesday its annual "Dirty Dozen" and "Clean Fifteen" lists of the most and least pesticide-heavy conventional [fruits](#) and [vegetables](#) in the U.S. The study can be found at: [www.ecowatch.com](http://www.ecowatch.com)

**Speaking of health**, a paper published in the Journal Cell (2021), researchers at Weill Cornell Medical have found that common fungi found in our guts, teach our immune system how to respond to their more dangerous brethren. They found that these good fungi act as a vaccine against fungal infections by fungal pathogens.

This is another reason to be an organic gardener and get our hands in a good rich fertile soil amended with compost or composted mulch where it contains billions of these good fungi.

**All life forms**, from insects to humans need sleep. Researchers at the University of Bristol published a paper in the journal Scientific Reports (2021) where they found the bumblebees and fruit flies when exposed to neonicotinoids pesticides, it reduced the amount of sleep they received. It also hurt the insect's ability to remember and hurt their natural 24-hour cycle of day and night which altered many biological processes.

This is another reason to be an organic gardener and grow our own food and avoid conventional food contaminated with pesticides like shown by the Environmental Working Group study listed above.

**One of the heaviest users of toxic chemicals and largest polluters of the environment** is toxic rescue agriculture used on conventional cotton farms. According to the USDA they used *48 million pounds* of pesticides in 2017 in just 12 states. The chemicals used



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are major sources of environmental and health problems. One thing we as consumers can do is look for and purchase organic cotton clothing.

**A** major source of pollution in our rivers and streams is sediment from erosion, which carries all the toxic chemicals and excess fertilizers, that are causing the dead zones in the oceans around the world. A study by the University of Illinois found that if farmers would use modern No-Till methods, it would reduce soil erosion by 70%! Note: Tillage also causes organic matter in the soil to be destroyed and converted to greenhouse gasses at a higher rate contributing to climate change. Journal of Environmental Management 2021

**A**fter the record freeze a few weeks ago many of us will be replanting citrus trees. A problem with growing citrus is the citrus greening disease. Researchers at the University of California- Riverside have discovered that a naturally occurring peptide found in the Australian finger lime plant (a citrus relative) can kill the bacteria that causes the disease. Proceedings of The National Academy of Sciences (2021)

**T**here was a paper in the Journal Earth's Future (2020) on artificial fertilizers and climate change. They stated that greenhouse gas emissions caused by toxic chemical agriculture contributes to 24% of global emissions from the production of artificial fertilizers.

**A**dditionally, the artificial fertilizers actually destroy long term fertility of soils by salinization (salts), acidification, erosion, and loss of nutrients in the soil. This leads to many downstream costs which in just the Mississippi river basin is estimated to be over one trillion dollars per year.

**U**sing modern organic methods from gardening and farming, regenerative agriculture as well as using good organic fertilizers like compost helps reverse this trend.



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I have had multiple customers whom stopped by to get plants and trees after the freeze, that voluntarily told me, they used a company called Arbor True for their tree work. They were very pleased with the service and professionalism. A couple of them stated Brittany Bates (by name) was very nice and excellent to work with in addition to being extremely knowledgeable.

I have had the pleasure of knowing and working with this company for many years. They are ISA certified arborists, very knowledgeable and extremely nice good people. If you need tree work done or just some consulting, they are a great company to call.

**ArborTrue Tree Service**

**Phone: (832) 980-8733**

**526 Kingwood Dr #241**

**Kingwood, TX 77339**

New research from West Virginia University has found that trees all over the world are absorbing more carbon dioxide than in the past. This finding emphasizes the importance of trees in helping to regulate climate change. Proceedings of the National Academy of Sciences (2021)

There was an interesting study published in Critical Reviews in Food Science and Nutrition that studied the differences on human health after consuming the same foods from animals raised in different ways. There was also a good article in the Dr. Mercola newsletter on the same subject.

Multiple studies have shown that food products from animals raised on pasture (grass fed) instead of grains, contained significantly higher levels of important nutrients like omega-3s and CLA (conjugated linoleic acid).



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We have known for years that refined vegetable oils like margarine increases one's heart attack risk and now we're finding out it increases one's chances of getting covid. As a result, sales of butter have soared as butter is rich in heart healthy nutrients, anti-cancer compounds, vitamin E, beta-carotene and more. The study found that butter from grass fed cows had the highest levels of these nutrients.

Organic grass-fed butter has even higher levels of beneficial nutrients. Organic ranchers spend more time and money on soil care and improvement, which manifests itself in healthier plants (e.g., grasses).

As we have talked about on many occasions it all goes back to our soil care:

**Healthy soil = Healthy plants = Healthy humans.**

This is why people are putting in home gardens and orchards in record numbers the last 18 months AND use the modern organic methods based on soil biology.

Note: Butter from CAFO (concentrated animal feeding operations) is the lowest quality. Cows did not evolve to eat grain and when they do, they produce lots of greenhouse gasses like methane that contribute to climate change. However, grass fed cows produce very little for comparison.

Raw organic butter and milk that is unpasteurized and not homogenized have the most health benefits.