

JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

I was listening to the news on TV the other day about a recall of vegetables contaminated with pathogens from the livestock manure applied as fertilizer. This reminded me of an article published in the Journal of Applied Ecology (2019) the other day on Dung beetles. The conventional farmers used a lot of pesticides to control pests and as a result it also kills off all the dung beetles. Dung beetles rapidly bury manure in the soil which quickly suppresses any pathogens. The study included 70 farms on the West Coast and the found organic farms had a far greater number of dung beetle and a greater variety of species. Hence the organic farms had a far less issue of pathogens when manure was used than conventional farms. Another reason to buy organic.

After writing the above I just read another paper on dung beetles. There are about 6,000 species of dung beetles that are tunnelers and many more that are rollers. As tunnelers they also carry up to 90% of the nitrogen in the manure with them into the soil (along with the other nutrients in the manure). As they tunnel, they aerate and improve the soil, help it absorb and hold more water. This process also helps sequester carbon in the manure in the soil where it can become humus.

The journal Weed Science (2019) had a paper on cover crop for weed control. They tested seven different combinations of cover crops for several years. They found that cover crops were very effective in reducing all weeds and that cover crops could retard the development



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of supper weeds that are herbicide resistant. A byproduct of using cover crops is that it sequesters carbon and improves the soil.

A new study released by the University of Washington (2019) concluded that exposure to the herbicide glyphosate (Round-Up) increases cancer risk by 41%. Most genetically engineered crops have high levels of this carcinogen in and on them, as does wheat, oats, soy, corn, and many other products. Along the same lines the University of California San Diego School of Medicine found an association between the glyphosate herbicide and negative effects on the human liver.

I have often reported on the benefits of re-mineralizing our soils and the benefits to plants, animal and human health. I read several reports the other day on this subject. When rock dusts are used in regenerative agriculture not only are valuable elements absorbed into our food supply, the weathering or breakdown of this rock minerals is converting carbon dioxide (CO₂) from the air into bicarbonate in the soil. Re-mineralization creates a positive biological feedback loop that sequesters carbon since the weathering occurs hundreds of time faster than normal.

The University of California won a grant for almost five million dollars to study re-mineralization along with biochar and compost to study carbon sequestration.

Re-mineralization is critical to regenerative agriculture and modern gardening (lawns to flower beds).



There is now a website dedicated to the benefits of re-mineralization:

<https://www.remineralize.org/>

Researchers at MIT (Massachusetts Institute of Technology) have developed a system for converting the molecular structure of proteins into audible sounds that resemble musical passages. They can then introduce some variations and reverse the process back into new proteins not seen before. "This way of encoding structure into music does reflect a deeper reality. When you look at a molecule in a textbook it is static. But in reality, it is not static but moving and vibrating. Every bit of matter is a set of vibrations. We can use this concept as a way of describing matter." Journal ACS Nano 2019.

A few years ago, I purchased a DVD of a series of lectures on "The Truth About Cancer". One of the presenters (Mike Adams – The Health Ranger) did the same thing with elements and chemicals, converting them into musical notes. The elements of life (hydrogen, nitrogen, oxygen, carbon, etc.) sounded smooth, relaxing and very pleasant. Even in combination they were still pleasing and beautiful. However, if one converted the atoms of the herbicide glyphosate into sound it was horrible (angry and irritating). Similarly, for many pesticides it was a horrible and irritating sound. <https://thetruthaboutcancer.com>

There has been a lot of interest in recent years about growing hemp plants especially the ones known as cannabis sp. One of the interesting facts that have come out is that hemp is very effective at sequestering carbon from the atmosphere if grown with rock dust re-mineralization as part of a fertility management plan.



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Speaking of carbon, there is three times more carbon in the soil than in the atmosphere. However, that carbon is being released by deforestation and the obsolete toxic chemical rescue farming. It is estimated that 3.2 billion people worldwide are suffering from degraded soils. This leads to 75 billion tons of valuable fertile topsoil being lost to erosion each year. As a result, more and more gardeners are creating Urban Meadows in their landscape instead of grass, they are adding pollinator plants for the beneficial insects and using lots of native plants and trees that help improve soil and sequester carbon. This is done by using the modern methods in horticulture based on soil biology often referred to as “Organic Methods”