



www.natureswayresources.com

JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

A new study by Michigan State University published in the journal Nature (2020) has found that plants control the microbiome diversity inside their leaves to promote health as well as in their root systems.

It turns out that increased microbiome diversity correlates with plant health and each different microbe supports one aspect of plant health.

We have known for years that when a plant's leaves and bark are covered by good microbes, then when a pathogenic fungus or bacteria wants to enter the plant, the entry site is already occupied by beneficial microbes and they cannot infect the plant.

I suspect that this is one of the reasons when a good compost or a high-quality compost tea is used, a huge variety of microbes are made available to the plant, which helps it be healthy.

A recent article in the Crop Science Society News Magazine (2020) was on ancient agricultural fields and why they eventually failed. The researchers discovered they were irrigating with water with a high salt content.

Sodium salt has a particularly strong effect on clay soils. The salt causes an effect called dispersion of the clay particles. Over time, these clay particles plug soil pores which decreases drainage (and aeration) leading to salinization which harms plants.



www.natureswayresources.com

The repeated drying and rewetting of clay soils contaminated by salt (sodium) can cause the clay to form a solid cement like layer, which reduces water availability to the roots.

This is another reason why gardeners along the Gulf coast should avoid poultry and cow manure fertilizers, spent mushroom substrate (aka mushroom compost), and many artificial fertilizers.

It is often said the best gardening tool is the gardeners shadow while walking around the garden. There was an article in Science News (April 2020) recently on walking. They found that the more steps per day a person takes the lower their risk of dying from any cause.

The annual death rate from those taking less than 4,000 steps per day was 76 per 1,000 people. Those who walked 4-8 thousand steps a day the death rate dropped to 21 per thousand people. If one walked 8-12 thousand steps a day the death rate was only 6.9 deaths per thousand. The full study was published in the Journal of The American Medical Society (March 2020).

In the January 2020 issue of Life Extension there was an article on the health benefits of eggplants.

They found in animal studies that eating eggplants led to lower LDL cholesterol and triglycerides. In addition, it also has protective cardiovascular effects. The study also found that eggplants contain numerous compounds that have anti-cancer properties. One cup of raw eggplant contains only 20 calories and is loaded with fiber.

Eggplants are easy to grow and produce a lot of fruit in a small space. They also love our summer heat and humidity.



www.natureswayresources.com

A paper in the journal Trends in Ecology and Evolution (2020) by the university of California has found that plant domestication has changed how plants interact with microbes in the soil or absorb nutrients as compared to their wild relatives.

As we have bred plants to be more productive and sustainable, we have made them dependent of artificial fertilizers and toxic chemicals. These modern plants have lost the ability to work with microbes in the soil and to absorb nutrients from the soil. Our pollinators from bees and butterflies to hummingbirds prefer heirloom flowers.

This is one of many reasons why gardeners are growing heirloom vegetables and flowers.

Below is a link to the Rodale Research Institute, where there are 3 studies that show Healthy Soil = Healthy People.

rodaleinstitute.org

We have often talked about the importance of mycorrhizal fungi to growing plants. Below is a link to an animated video that explains some of the benefits and how the fungi work to help us have healthy plants.

mycorrhizae.com

The Rodale Research Institute has released a paper on regenerative agriculture and why it is so important to our health and survival called "[THE POWER of the PLATE - The Case for Regenerative Organic Agriculture in Improving Human Health](#)".



www.natureswayresources.com

This is a good summary of why we need to incorporate regenerative practices in our flowerbeds to our agricultural fields.

We have all heard the phrase “Let Food Be thy Medicine” attributed to Hippocrates. A plant known as *Glycyrrhiza glabra* and *Glycyrrhiza uralensis* has traditionally been used in natural medicine from the Greece to China for thousands of years. Most of us know this plant as licorice root or just licorice. Numerous studies have shown this plant to be a strong antiviral. It was very effective against the SARS (severe acute respiratory syndrome) virus. As a result, it is now being studied as a treatment for COVID-19. Journal of General Virology, Journal of Biological Sciences, Botanical Medicine, and Dr. Mercola.