

## JOHN'S CORNER:

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

*by John Ferguson*

Many times, after a rain or an application of leaf mold compost, I have had numerous gardeners telling me that their plants were “smiling” at them. I have experienced this myself on many occasions.

This has made me think and ask, “Are plants intelligent?”

A recent article in Acres USA was on plant sentience and an ethical framework for food production. A book in 1973, “The Secret Life of Plants,” first documented experiments that confirmed that plants have some form of sentience. Many others have been published since then. The Bible even states that the plants will cry out and praise God if we do not.

What we now know is:

- plants can learn
- plants can communicate
- plants can hear
- plants can smell
- plants can make decisions
- plants have memories
- plants have the ability to learn
- plants have social lives
- plants can feel
- plants feel stress and pain



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- plants are aware of their environment
- plants use the “wood wide web” to share information and nutrients with other plants

We have often talked about the dangers of sewage sludge (Biosolids) which the EPA says is safe. Recently the federal OIG (Office of the Inspector General) found in its report to Congress a different story.

They found 352 pollutants in biosolids which included 61 designated as acutely hazardous. These ranged from antibiotics to steroids, pharmaceuticals and flame retardants. There is an informative book by a former research scientist at the EPA. He turned whistle blower and his assertions were validated in federal court on the dangers of sewage sludge often called biosolids for marketing reasons. Note: There are compost companies in South East Texas that use biosolids in their products.

**Science For Sale: How the US Government Uses Powerful Corporations and Leading Universities to Support Government Policies, Silence Top Scientists, Jeopardize Our Health, and Protect Corporate Profits**, by David Lewis, PhD., Skyhorse Publishing, 2014, ISBN: 978-1-62636-071-6

The Dr. Mercola newsletter reported that pancreatic cancers are associated with fungus and this bad fungus drives cancer growth. This is another good reason to be an organic gardener so



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our biome is constantly exposed to good bacteria and good fungi to recharge our immune systems.

**A** study published in the Journal of Phytopathology (may 2019), found that round worms in the soil produce pheromones used for chemical communication. These pheromones also tell plants to prime their immune systems. This priming makes the plants very resistant to many soil diseases. When one uses an artificial fertilizer or a toxic pesticide the round worms are killed and the plants become more susceptible to diseases.

**A** 19-year study published in the Journal Change Biology (2019) has found that compost was key to sequestering carbon in semi-arid croplands. When compost and cover crops were used, soil organic matter increased 12.6% over the study measuring changes down to a six-foot depth.

**A** nother study has found that children growing up in a rural community where they are exposed to farm animals, appears to confer a decreased risk of allergies and asthma for one's lifetime. The studies on rodents have shown that inhaling certain molecules produced by soil dwelling bacteria promotes an improved immune system. Maybe this is why I still enjoy playing in the dirt (Soil).

[The Dr. Mercola newsletter has a nice article titled "Why Lawns Are an 'Ecological Disaster":](#)



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A few states like Minnesota are now paying homeowners to get rid of their lawns and replace them with Urban Meadows which cost far less to maintain and provide numerous benefits for the environment.

A study by Michigan State University published in the journal Nature Communications (2019) has found that soil structure is essential in sequestering carbon from the atmosphere. For carbon to be sequestered and protected it has to be able to move through the soil into deeper layers. They found that soils with higher plant diversity (like prairie ecosystems) had the best soil pores or structure to sequester carbon. In other words, the greater number of plant species growing in the soil, the better it worked at storing carbon.