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## JOHN'S CORNER:

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

*by John Ferguson*

**A** recent report from France, now that restrictions on the use of glyphosate have been in place, has found that many herbicides now contain arsenic, lead, nickel, and PAC's (poly aromatic hydrocarbons). The tests were from 14 different formulations of herbicides.

Along the same lines France's highest court has found that just inhaling fumes from the Monsanto herbicide known as Lasso causes neurological damage. It has been banned in many countries since 1985 in some countries like Canada.

**A** study from Penn State University has found that most bags of mulches are not what they claim to be. For example, mulch bags claiming to be cypress were found to be only 50% cypress and some had zero cypress in them.

One bag from Texas was only 50% cypress and another brand from Texas were zero percent cypress. Journal Food and Fiber Science (2020)

Note: Horticulturally and from a healthy soil's perspective, cypress is one of the lowest quality mulches available and should never be used. From the series on mulches a few years ago:

**Cypress** - Cypress mulch became popular during the first part of this century for two reasons; it is very rot resistant and would last for years (just the opposite of what plants require for good health) and the heartwood of a mature tree is pink (our first colored mulch). It takes decades for a cypress tree to mature enough to get the colored heartwood hence it is not sustainable. Mulch producers dredged up old cypress trees from the bayous around New



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Orleans to make mulch out of them and this significantly added to the flooding after hurricane Katrina as the storm surge could move in much easier without the trees blocking the flow. Most of the old cypress trees have been used up and we now get plantation grown trees now. These young trees do not have the colored heartwood and have a very high C:N ratio of close to 500:1 which causes nutrient tie-up problems. Studies have shown that Cypress mulch slows (suppresses) the growth of a range of woody plants such as hydrangea, spirea, viburnum and compared to even plain pine bark which is also a low-quality mulch.

Over the last few years there has been an explosion in the demand for products made from the Cannabis or Hemp plant family often known as Marijuana. These species are *Cannabis sativa*, *Cannabis indica*, and *Cannabis ruderalis*, even though some believe they are all *C. sativa* with slight sub species differentiation.

Cannabis is known for its psychoactive chemicals THC (tetrahydrocannabinol) and medical CBD (cannabidiol). Cannabis (Hemp) is also grown for its strong fibers used in many commercial applications.

As this new industry has grown, the question has arisen on what to do with all the massive amounts of cannabis waste. It often has residual levels of THC above the legal limit of a maximum of 0.3% upon which it is a regulated controlled substance. Hence, very expensive to legally handle and dispose of this regulated waste.

A study in Maine found that composting quickly biodegraded the THC component at test sites done at multiple facilities. At the start of the study there was a 5.21% THC level in the left-over cannabis, after processing for the oil. After 6 months of composting there was no detectable THC residues.

Maine Department of Environmental Protection and two local commercial compost operations (2020).



The complexity of microbes and what they do continues to amaze us. Outer space is not a good or safe environment for life forms. Extreme temperatures, zero air pressure (vacuum), many forms of radiation, etc.

It has been discovered that bacteria can work together to survive in space. After three years in space, on the outside of the International Space Station, living microbes have been discovered.

The bacteria formed balls where the outer layer protected the inner layer from the harsh effects of space. Journal Frontiers in Microbiology (2020).

This discovery lends support that life might live in other extreme environments and on other planets. God's creation is amazing!

Many gardeners love roses, however there is a new disease affecting many types of roses called Rose Rosette Disease. The Houston Rose Society November newsletter [had a link](#) to a discussion on this disease.

We have learned in recent years that fungi play a major role in plant health and growth, and that arbuscular mycorrhizal (AM) fungi live in a symbiotic relationship with about 90% of all land-based plants, playing a key role in supplying the essential nutrient phosphorous (P) to the plant.

A new study has found by Texas Tech researchers, published in the journal Proceedings of The National Academy of Sciences (2020), has found these same fungi also supply nitrogen (N) to the plant. These AM fungi were found to supply at least 40% of the required nitrogen.



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When a gardener uses a chemical fungicide, they lose these benefits. The reasons to use modern organic methods continue to increase, as they not only provide better results, they cost less.

There was a very interesting article by Dr. Mercola on health and the pandemic. One item that stood out for me was that deaths from all causes totaled up, are the same this year (2020) as in previous years. The full article can be found at:

[articles.mercola.com](http://articles.mercola.com)

To put the pandemic in perspective:

Cancer deaths in the USA in 2019 = 607,000

Cancer deaths in USA in 2020 = 600,000

A bombshell study published in *The Lancet* medical journal (April 2018) finds that low-level lead exposure is responsible for the deaths of 412,000 Americans each year, primarily from lead-induced heart disease and ischaemic heart disease.

Deaths due to medical errors in USA (2000) = 225,000

Deaths by heart disease 611,000 in 2015

[Air pollution](#) may have killed more than 30,000 Americans in a single year despite the fact that particulate matter levels in most U.S. counties fell within federal safety standards, [CNN reported](#). July 24, 2019. (2.5 million people per year worldwide)

We as a society do not shut down the economy and penalize people for all the toxic agricultural chemicals that are linked to causing cancer, or the air pollution, or medical errors



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that kill far more people than Covid. According to the CDC if deaths from other health problems caused by our extremely poor-quality, chemically contaminated food supply are removed, then actual Covid deaths are only 10,000.