

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

## By John Ferguson

I read an article this morning that gives another very good reason to use organic fertilizers besides the fact they work better, cost less, and cause no environmental damage.

According to the article, most artificial fertilizers are manufactured from natural gas which creates greenhouse gasses during their production and again more greenhouse gasses when they are used.

The article stated that almost ALL artificial fertilizers are manufactured in Russia and China since they have a surplus of natural gas and labor is very cheap. Hence, when one uses artificial (synthetic) fertilizers, one is supporting the economies and policies of Communist countries and communism.

**W**hite flies are often a problem in our climate. Bio-control is a very effective tool in dealing with these pests. The miniature wasp (less than 1/16 inch) Encarsia Formosa parasitizes over 15 species of white flies.

These tiny wasps crawl all over the leaf and when they find a whitefly nymph, they lay their egg in it or just suck its juices out. Each of these wasps lay about 10 eggs per day which mature and hatch in about three weeks. Produce Grower March 2023



**M**any of us like to grow citrus, especially lemons. Before winter storm Uri I had a large 20-year-old Meyer lemon tree that would produce hundreds of large lemons each year. My wife and I would juice lemons from our Meyer Limon tree for years. We would freeze the juice in ice cube trays and save it for hot summers to make lemonade.

I was reading an article in Science News about how researchers have confirmed the old wife's tail that drinking lemon juice prevents kidney stones. The juice had small sacs of nutrients that prevented the formation of calcium oxalate crystals that form kidney stones.

Another benefit of lemon juice is that when mixed into drinking water, tea, etc. it quickly allows the toxic fluoride in water systems to be released to the atmosphere.

In this heat wave a glass of homegrown lemonade over crushed ice would sure taste good.

**W**e often wonder why we as a people are far sicklier than our forefathers. I recently read a statistic from the EPA that stated **three billion pounds** of toxic chemicals were released into our environment in 2021. No wonder the EPA is nicknamed the **E**nhanced **P**rofit **A**gency.

The EPA also found that Texas is the number one state for discharging toxic pollutants into streams, rivers, and lakes (over 16.7 million pounds in 2020).

The biggest polluter in the state was a chicken supplier owned Pilgrim's Pride Corp. When one purchases organically raised chickens (or raise your own), you are not supporting these factory farms that pollute our waters.

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**T**he results of the 40 year long Farming System Trials by the Rodale Institute has found that organic management matches or outperforms conventional toxic rescue agriculture.

Yields - organic systems produced yields that matched or exceeded conventional systems. In extreme weather conditions from flood, drought, etc., organic significantly outperformed conventional systems.

Water - water infiltration is significantly faster under long-term organic management

Soil – soil health continued to increase over time in organic systems compared to conventional systems where it stayed the same or declined.

**M**ost of us love chocolate which come from the cacao plant (*Theobroma cacao*) which translate to "food of the Gods." However, this plant is a hyper accumulator of the toxic metal cadmium (Cd).

We have discussed in the past that many artificial fertilizers, sewage sludge, etc. when used to grow crops are a major source of this toxic element. These products are often used for fertilization in cacao growing areas as they are cheap.

A study published in the journal Frontiers in Environmental Science (2022) found that compost can curb the cadmium uptake by the plant. The research suggests that the more mature composts (longer composting timeframes) had higher levels of humic and fulvic acids. Another reason to purchase organic chocolate often fertilized with compost.



**R**ecently there was an article on a group of microbes called ciliates. The researcher found that a single celled pond dweller ciliate, in the family *Halteria* are virovores.

These good microbes eat and can survive on a virus only diet. In the lab **each** *Halteria* ciliate ate between 10,000 to over one million viruses daily. Proceedings of the National Academy of Sciences (2023)

## Roundup Update #13:

- A study in Mexico found that GM (Genetically modified) soy beans which tolerates high levels of the herbicide glyphosate harms the pancreas, confirming earlier animal studies.
- Another study in Environmental Health News (EHN) found that children that were exposed to glyphosate herbicides, were more likely to have a group of symptoms in early adulthood that increase the risk of heart disease, diabetes, fatty liver disease, and stroke.

A paper in Environmental Health Perspectives by UC Berkeley School of Public Health found the same correlation and included cardiovascular disease.

- The CDC (Center for Disease Control) finds the toxic weed killer in 87 percent of the children tested in the US.
- A study by researchers at Cambridge University found that glyphosate disrupts the human gut micro-biome.

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The study found that Roundup and to a lesser extent glyphosate itself caused an increase in fermentation activity which led to an increase in acetate and lactate, resulting in acidification of the microbial environment.

They also found that ammonium production was substantially increased by Roundup as compared to glyphosate by itself. Ammonium production promotes colon cancer.

- Due to the mounting evidence of health and environmental damage caused by GM corn, Mexico is banning GM corn from being grown or imported. The goal is to phase out GM corn and the herbicide glyphosate by 2024.

Note: Many politicians and the USDA is fighting Mexico's right to protect its citizens.

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