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JOHN'S CORNER: NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

Experienced gardeners know that many of the "black" mulches are produced by chemically burning them black with the toxic and extremely alkaline waste we call coal ash left over from burning coal. Researchers at Virginia Tech have discovered nano-particles in coal ash composed of titanium oxides that have an unusual crystal structure (Magneli-phase particles) that had previously only been found in interplanetary dust and meteorites, and they found this stuff all over the planet. These particles get into the lungs and our blood, however the mechanism of how and why they do harm is not fully understood. Animal studies suggest these particles can harm humans. This is just another reason to avoid black mulches.

A study from Texas State University published in the Journal HortScience (December 2017), has found students whom had previously served in the U.S. Armed Forces and that had worked in a greenhouse environment had decreased levels of stress. After working in the greenhouse for a period of time 75% of the students said, they would consider a career in horticulture. Note: Texas State University has an organic horticulture program. My son served in the Navy and as part of his degree was a minor in organic horticulture from Texas State University.

We continue to learn about the importance of microbes from soil and plant health to human health. Humans have trillions of microbes living on and in our bodies. The human microbiome is often referred to as our "second brain" and the microbes in our guts are 80% of our immune system. These specific microbes have a function to help protect us. When this community of microbes are disturbed our health and well-being suffers. We now know that exposure to environmental toxins such as pesticides alter our biome leaving one vulnerable to sickness and disease. Research continues to come out on the dangers of Round-Up and glyphosate. This herbicide damages our gut microbiome more than previously thought and researchers



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have found arsenic in the complete formation. We are also learning that glyphosate lingers in the soil far longer than we were told, doing damage for years after just one application. Hence, it continues to damage non-target crops and suppressing the beneficial mycorrhizal fungi, which helps plants obtain nutrients while also offering plants protection from diseases. The extremely toxic chemical harms soil organisms from small insects to earthworms and then the residues pollute our waterways. One scientist studying this issue has stated that damage to the human body occurs at exposure levels 1,000 times lower than allowed by law. The reasons to buy organic and avoid GMO's continue to grow.

The organization "The Truth About Cancer" had a recent article on nutrients that help prevent cancer.

- 1) Ursolic acid is a plant oil and phytonutrient. It is found in herbs like holy basil and oregano, the skin of apples and bilberries.
- 2) Vitamin D is critical to the production of a cancer fighting protein. It also blocks enzymes that encourage cancer growth.
- 3) Curcumin supports our immune system and inhibits cancer cell growth.
- 4) EGCG (epigallocatechin-3-gallate) is a compound found in green tea, three decades of study has shown that it inhibits cancer growth.
- 5) Sulforaphane helps prevent the formation of free radicals and help eliminate toxins that fuel cancer growth. Brussels sprouts are one of the best sources of this nutrient along with cauliflower, broccoli, and kale.
- 6) Quercetin is a super antioxidant that stimulates the body's natural detoxification pathways and exhibits natural anti-cancer properties. Foods high in quercetin include onions, capers, blackberries, raspberries, black and green tea, dark cherries, cocoa powder, kale, apples and herbs (sage and parsley).



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7) Apigenin is a flavonoid that inhibits cancer cells from spreading. It is found in grapefruit, onions, and oranges. Other sources are chamomile tea and parsley (one of the best sources).

8) Luteolin is found in green peppers, chamomile teas, and celery. It is an antioxidant that has been shown to help protect lungs, liver, and heart tissue against the degenerative effects of cancerous activity.

The full article can be found at <https://thetruthaboutcancer.com/nutrients-block-cancer-metastasis/?gl=5a6b7a44595c974012e90467>

It is important to remember that these beneficial compounds found in plants start degrading as soon as the plant or fruit is harvested. They often lose 30-70% of the benefit in the first couple of days after picking. Hence, foods shipped from another country taking days (or weeks) to arrive do not provide the benefits. This is another reason to grow one's own food or buy from a local farmers market to obtain organic, fresh, and nutrient rich food.

By now, almost everyone knows about the benefits of Omega 3 fatty acids. A study published in the Journal of Nutritional Biochemistry by researchers at the University of Guelph have found that Omega-3s sourced from marine based plants and animals are eight times more effective at inhibiting tumor development and growth as compared to the omegas obtained from flaxseed, soy, canola or hemp.

A friend and colleague of mine, Mike Serant, the owner of San Jacinto Environmental and the makers of the great family of products we know as Microlife (a sponsor of this newsletter), is declaring 2018 as the Year of Organics! Organic food and products is the fastest growing segment of our economy. Demand for organic products far outstrips supply. Join the tens of millions of gardeners across the country converting to the modern methods based on soil biology that we call organic.