

JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

Researchers have identified several plant pigments that help the body prevent macular degeneration. Lutein, zeaxanthin, meso-zeaxanthin, and astaxanthin can all help protect against age-related macular degeneration.

Folks with the highest intake of lutein and zeaxanthin have a 42% lower risk of advanced macular degeneration. For those already affected the extracts of the spice saffron have been shown to improve visual function.

Lutein and zeaxanthin are found in dark green leafy vegetables and colorful fruits. Other pigments like alpha-carotene a carotenoid, and vitamin A found in pumpkins and carrots, where they protect the retinal cells in our eyes from light induced damage. For the full article see Life Extension September 2021.

Fruits and vegetables grown organically on fertile mineral rich soils are high in these valuable nutrients.

Another study from the University Edith Cowan in Australia has found another factor on the importance of green leafy vegetables. They found that people whom consumed a nitrate rich diet from leafy vegetables had significantly better muscle function and strength, independently of any physical exercise. Journal of Nutrition (2021)

I have found that as I get older, I am eating and enjoying kale, spinach, turnip greens, cabbage, etc. far more than when I was younger. I suspect my body is telling me that I need those nutrients more today than in the past.



Researchers have found that people whom consume diets rich in plant-based foods also encourage good gut microbes that are connected to a lower risk of heart disease, and type II diabetes. Nature Medicine 2021

Vegetables straight from one's garden will have the highest levels of these good microbes.

The authors also state that those whom consume processed foods have the most bad gut bacteria.

Researchers from China have found that the insect pest called whiteflies have stolen a gene from plants and incorporated it into their genome. This gene breaks down natural plant toxins that plants produce to protect themselves from pest insects. Whiteflies have now evolved to attack at least 600 species of plants. Journal Cell (2021).

A study from the University of Wurzburg in Australia has found that plants have a memory. They found that plants have a signaling molecule that helps them remember how dry it was. Nature Communications (2021)

I often get asked "Why should I compost? A recent study by the United Nations has found that food waste in the world is near one Billion metric tons. This is 17% of all the food available to the world's population. Which is more than enough food to feed the 690 million people that face starvation each year.

To put it in perspective, this is 266 pounds of food waste per person! At the very least this waste needs to be captured, composted and returned to our soils.

It also accounts for over 10% of the world-wide greenhouse gas emissions. Science News (April 2021)



Some old wife's tails have merit. I have heard for years that catnip (*Nepeta cataria*) repels mosquitos. Catnip repels insects by causing a common chemical receptor (TRPA1) found in insects to react. Studies suggest that catnip may be as effective as DEET in repelling insects. Current Biology 2021

Along with growing one's own fruits and vegetables, more and more folks are raising their own chickens. We have known for years that when chickens eat grass or weeds from our gardens (natural weed control), they are healthier for them and for us.

Many plants we call weeds have a role in nature. Many of them are used to correct nutritional deficiencies in our soil hence they often have higher levels of certain elements. When chickens, ducks, or other animals eat the weeds, the nutrients become concentrated and available in their meat.

In gardening many studies have shown that heirloom vegetables and fruits have a higher nutrient density that modern hybrids. A recent article in Mother Earth News 2021 reported that the same was found in chickens.

Heritage breeds have more protein and less bad fats than commercial breeds. If they are grass fed, they also do not have arsenic or antibiotics in them as do the commercial hybrids.

Gardeners have used chickens and ducks as a weed control method for hundreds of years. Ducks are also a voracious predator of snails and slugs that have been so abundant this year.

The field of study called "Senolytics" is related to anti-aging research. Compounds that are Senolytics, remove senescent cells from our bodies and can reverse certain aspects of aging. Nutrients like quercetin and theaflavins (from black tea) are widely used.



The flavonoid fisetin from plants is one of the most powerful natural Senolytics that increases life span in animal studies by 10%. Life Extension June 2021

Plants whether fruits or vegetables, that are grown organically, on mineral rich soil tend to have higher levels of these nutrients.

Another field of study related to health is called Nootropics. It is the study of nutrients and how they affect our brains. These molecules (compounds) are natural chemicals found in foods that protect or enhance cognition and facilitate learning. "They are often used by people whom want to improve their brains processing speed and mental alertness."

For example, the herb *Bacopa monnieri* has been used since ancient times to improve memory. The herb *Gotu kola* is native to Asia has been used for centuries to boost brain power.

By using new techniques like electroencephalography (EEG) researchers were able to actually measure the amount of improved brain performance. These included improved attention and reaction times in just one hour after supplementation. After two months short-term working memory, word recognition, spatial memory, picture recognition, and alertness all improved. Life Extension Collector's Edition 2021.

The newspaper Epoch Times, in the Mind & Body section, had a very nice article in the May 12-18, 2021 edition on nutrition and health titled "Food as Medicine".

In Doug Tallamy's book "The Nature of Oaks" he states the worst tree for the environment Is the Callery pear (aka Bradford Pear) which are all over the Gulf coast.



Besides being known for kissing, another tid-bit of information from the book, is that the large Great Purple Hairstreak butterfly (*Atlides balesus*) uses mistletoe leaves as its only host plant.

The medical service Full Script has a <u>good basic article on nutrition</u>. They did not distinguish between nutrient density of organic or non-organic foods, or grass fed versus feedlot grown meat contaminated (dangers) of the associated chemicals like hormones and antibiotics used.