

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

Many times we have talked about the dangers of glyphosate (Round-Up) and GMO's, it is one of many reasons that we need to garden organically and produce our own food that is nutritious, tastes good and is nutrient dense. Monsanto has been voted the most evil corporation in the world many times and the link below is to а video that explains why. Warning .. the video is chillina. https://www.youtube.com/watch?v=PTi0 ZQtPTY&feature=youtu.be

In our study of the elements last year, the element europium was thought to have no known biological role. However, laboratory animals fed diets with Europium increase their lifespan by 100%. Research from Ludwig-Maximilians-University published in the journal ChemBioChem 2018 has found the bacterium *Methylacidiphilum fumariolicum* uses europium to make an enzyme that converts methanol into formaldehyde. Its active site consists of the cofactor PQQ (pyrroloquinoline quinone) which is critical for many biological functions from microbes to humans.

I know many of us love the spice cinnamon. The Chinese cinnamon *(Cinnamonium cassia)* has been found to have anti-cancer effects. Cinnamon is made by cutting the stems of the Cinnamonium tree in which the inner bark is extracted and dried. As it dries in curls up into the roles we call cinnamon sticks. Cinnamon is rich in antioxidants, fights inflammation, some studies have shown it lowers ones risk of heart attacks, and it improves insulin sensitivity. Animal studies have shown it helps improve Alzheimer's disease and Parkinson's disease.

Natural News 2018 In the June 2018 issue of Greenhouse Management there was a very nice article on Growing Media. Their survey found that more nurseries are using shredded wood as part of their potting mixes or growing media. I have been using composted native mulch for over 20 years as a growing media or as a component of growing media. One thing I have learned is that putting a couple inches of composted native mulch into the bottom of a pot before I add the soil or potting mix has proven very beneficial. First it keeps soil from falling out the drainage holes. Secondly it attracts earthworms, which keep the soil media well aerated and loose with good soil structure. The earthworms also produce plant



growth hormones like auxins, hence the plants tend to grow faster and establish roots faster. Third, since I have started doing this I cannot remember ever losing a plant to soil diseases. The composted native mulch is extremely high in beneficial microbes that protects a plants roots from soil diseases. Forth, I often use composted native mulch to root cuttings in as it hold moisture and does not dry out as quickly as other media (I have been known to place some cuttings into a pot and forget to water them for a week at a time). Fifth, roots love it! On many occasions I will be growing out some plant in a 5 gallon pot. After sitting in one place for several months I will try and lift it and find it has become anchored to the ground. Tree roots have come out of the ground and grown into the container. Somehow the tree knew there was a rich fertile soil waiting for it.

A chemical called sulforaphane has been found to fight Alzheimer's disease. In addition to helping with memory it has also been found to protect cells from oxidative damage as it is a antioxidant. Cruciferous vegetables like broccoli, cabbage, and cauliflower are prized for their cancer fighting powers which in part come from this compound. Fresh vegetables are best, as cooking or freezing destroys this beneficial compound. It also degrades over time hence raising one's own vegetables is best or at least buy from a local organic farmers market.

A new study from the University of Illinois published in the journal Microbial Biology has found several groups of microbes that fight the plants we call weeds. They have identified soil microbes that negatively affect ragweed. This finding will allow a new field of weed control by allowing researchers to identify plants that attract the weed inhibiting microbes.