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JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

For years, it was assumed that dead trees had 3-4 species of fungi in them that was being used to breakdown the lignin, cellulose, and hemi-cellulose. A study from the Helmholtz Centre for Environmental Research has found that a dead tree can have over 1,254 types of fungi. They also found that the species used for decomposition in Oaks were different from the species in Ash trees, and the Douglass Fir had the most diversity.

A study in Environmental Toxicology and Chemistry found that exposure to the herbicide Atrazine; it changed the ratio of males to females in frogs. Male frogs would develop testicular ova or even totally reverse their sex.

A study in the Journal Oecology from Purdue University, found that when a cover crop was used in fallow fields, there was a large increase in ground beetles that feed on seeds of weeds. The cover allowed other small mammals that eat weed seeds to forage. The results were that 3-4 times more weed seeds were eliminated. For gardeners this supports other studies that have shown that when our flowerbeds are full of plants to where their leaves touch each other and one only uses the modern organic methods, they have very few weed problems.

Another way glyphosate found in the herbicide Round-Up hurts ones health was discovered. The "gly" in glyphosate stands for glycine a common amino acid found in our bodies and used to make proteins. When one ingests glyphosate from eating foods like GMO's and non-organic foods, the glyphosate molecule is used instead of glycine and results in non-functional proteins. This also occurs if one breaths the fumes or it gets on ones hands during application. Additionally, glyphosate destroys what is known as the shikimate pathway in microbes. As a result, it disrupts our microbiome in our digestive system, which accounts for 70-80% of our immune system, which then leads to digestive disorders and other health problems.



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A paper in the journal Brain, Behavior, and Immunity by a team of researcher in Denmark, has found that an unhealthy diet leads to depression as it disrupts a healthy biome in our digestive system. When one eats organically grown foods, we receive many beneficial microbes that are good for our health. OHBA (Organic Horticultural Benefits Alliance) is sponsoring a seminar by David Montgomery and Anne Bikle, on regenerative agriculture and the link between the soil biome and the human biome on March 21, 2018.

Researchers at King's College in London have found that being outdoors, seeing birds, sky, trees, etc. and just being in contact with nature promoted higher levels of mental well being. This is another good reason to be an organic gardener.

Researchers at the University of Illinois have found that honeybees are attracted to the fungicide chlorothalonil. Honeybees and wild bees do not have the detoxifying enzymes and when exposed to this fungicide, there was a decline in populations. The researchers also found that the bees were attracted to food with glyphosate (Round-Up) on it, even as little as 10 parts per billion.

Most gardeners care about their health. Independent laboratories have found that 17 make-up products from Clair contained the cancer-causing tremolite asbestos. In addition, the Justice Blush product contained four heavy metals. Many of these contaminated products were aimed at children. Natural News January 10, 2018.

Reasons to grow our own fruits and vegetables continue to increase. New studies from the USDA and FDA have found that 85% of the 10,000 samples they tested contained pesticide residues. The neurotoxic pesticide chlorpyrifos was the fourth most common. Note: The EPA was going to ban this pesticide since it is extremely toxic to children until the new director stopped it. Imported varieties of foods were more likely to contain pesticide residues that have been banned in the USA. Since the EPA raised the amount of pesticide residues allowed on foods in July 2013, most are now within allowable limits. In 1993 only very few people had glyphosate (Round-Up) in their urine, but by 2016 over 70% of those tested had glyphosate breakdown products in their urine. Not only did the amount of exposure increase the levels increased by 1,208%!



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We continue to learn that nutrition from plants can convey major health benefits. The molecule known as AMPK was identified in 1973 for its ability to regenerate cells. We now know that it also has many other health benefits. In a randomized study, it was found that an extract from the herb called Southern Ginseng (*Gynostemma pentaphyllum*) reduces belly fat by over 6%; however, the dangerous visceral fat was reduced by 11%. Life Extension, January 2018

Another plant *Camellia sinensis* or Tea plant has been found to provide many health benefits in the form of green tea (where the leaves have not been processed as done to make oolong or black teas). This tea is very effective in protecting one from colorectal cancers. Life Extension, January 2018