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JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

The etc Group released the 2017, third edition of its report "Who Will Feed Us - The Peasant Food Web vs. The Industrial Food Chain". The full report can be found at http://www.etcgroup.org/content/who-will-feed-us-industrial-food-chain-vs-peasant-food-web.

There is some very interesting data presented

Peasants (poor people) are the main or sole food providers to more than 70% of the world's people; however, they only use 25% of the resources (land, water, fossil fuel, etc.). This is compared to the Industrial Food Chain (conventional agriculture) that uses 75% of the world's agricultural resources and is a major source of GHG (Green House Gases), pollution and erosion.

For every dollar ($1) consumers pay to food chain retailers, society pays another $2 for the chains health and environmental impact (damages and hidden cost). This is 5 times all governments' combined annual military expenditures.

At least 3.9 billion people are either hungry or malnourished (lack of calories or lack of nutrition from those calories) because the industrial food chain is too distorted and vastly too expensive and will never be able to feed the world.

The industrial Food Chain uses 75% of the worlds agricultural land and in the process annually destroys 75 billion tons of topsoil, responsible for 7.5 million hectares of forest being cut down (over 18 million acres per year), 90% of agricultural fossil fuel use (and GHG) and at least 80%

of the fresh water use. This leaves us with a bill of $12.37 trillion (for food and damages) and still leaving 3.9 billion people underfed or malnourished.

Domesticated animals on factory farms transmit over 60% of all infectious human diseases, significantly caused by extreme genetic uniformity. Feeding these animals antibiotics, to increase their growth, and to keep them alive, costs the USA alone over $55 billion each year. "Antibiotic resistance is a threat that may equal climate change."

The study found that for every $1 spent on artificial fertilizers, more than $4 are incurred in soil and environmental damages.

Agriculture uses 70% of the world's freshwater usage, over 1/3 of our major aquifers are distressed and 2/3 of the aquifers are being depleted. Note: No water in the aquifers will mean no food in the future. This reminded me of the prophecy in Revelations 6:6-8 on famine.

The study found that the cost for conventional food is $7.55 trillion and the hidden social, environmental, and health costs are an additional $4.8 trillion per year.

Note: The industrial agriculture also uses 100 million child laborers, which violates human rights. When one buys conventional food, they are contributing to the abuse of children.

We all know that our teeth and bones use calcium phosphate to make them strong and hard. New studies have found that members of the rock nettle family also use this mineral in their teeth. Researchers at Bonn University have found that Thal Cress (*Arabidopsis thaliana*) uses this mineral in their trichomes (think spines or teeth) to harden them. When pest insects like aphids try to walk over them they are impaled on the spines.
As more plants are hybridized for larger yields, the quality and quantity of the nutrition in them declines including their pollen. When bees eat the pollen from these plants and when exposed to neonicotinoid pesticides the death rate of the bees is 50% higher than either poor nutrition or pesticides alone. Proceedings of The Royal Society, December 20, 2017.

A study on deforestation by the University of Basel has found that 36 billion tons of valuable topsoil is loss every year due to deforestation, water, and changes in land use. This study supports the data in the etc Group study.

Documents obtained from the FDA through Freedom of Information Act (FOIA) has shown that they expect the usage of the toxic and controversial herbicide known as 2,4-D is expected to triple in the next year. Other items found is that pesticide residues on our food have increased from 37% in 2005 to 50% today. The FDA is also doing less testing of food for toxic chemical residues (if one does not test they will not find anything). A USDA report found that 85% of the food samples tested were contaminated with pesticide residues! Environmental Health News, December 21, 2017. The full article by Carey Gillam, an investigative environmental reporter can be found at http://www.ehn.org/what-foods-have-the-most-pesticides-on-them-2518891617.html

Note: Carey Gillam, the author of the book "White Wash" on the dangers of Round-Up in our food supply and the government cover-up, will be speaking at an OHBA event on the evening of May 15, 2018 in the Brown Auditorium at the Museum of Fine Arts.

A new problem in agriculture is emerging. In California, oil companies whom use water for fracking, which is often contaminated by drilling chemicals and carcinogenic chemicals like ethyl-benzene. This wastewater, is now being used by some growers for irrigation. So on top of pesticides and herbicides we now have industrial and drilling chemicals on and in our food. Halos Mandarins, Pom Wonderful juice or Wonderful pistachios and almonds are among a few brands tested so far that use fracking waste water.

An invasive pest, the Emerald Ash borer is starting to adapt to eating other species of trees. The white fringe tree (*Chionanthus virginicus*) of the southeast and commercial olive trees (*Olea europaea*) have been found to host the larva. So far the larva do not survive to maturity. The parasitic wasp species *Tetrastichus planipennisi* has proven to be an effective control in ash trees; however, they do not attack the larva if it is on a fringe tree. Science News 12/23/17.

Several studies have shown that when birds eat seeds treated with small amounts of the insecticide "imidacloprid: a common neonicotinoid pesticide, they lost weight and became disoriented and could not migrate. Science News 12/23/17.