NATURE'S WAY RESOURCES
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NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

The journal Environmental Health Perspectives (2021) had a paper that found an association with pesticides and the disease called shingles. Bottom line, the more pesticides one is exposed to and the longer times one has been exposed to pesticides, is correlated with increased risk of getting shingles as we get older. They also found that women are more susceptible.

Another study in the journal Environmental Health Perspectives (2021) found that exposure to fluoride sometimes increased bone density, however it made bones more brittle. They found that the bone that is formed is of lower quality, hence easier to break.

Women with the highest third of fluoride exposure/consumption had a 59% increased chance of hip fractures. Fluoride is found in many pesticides and other toxic agricultural chemicals, toothpaste, cosmetics and drinking water to name a few.

FYI - The journal of the American Chemistry Society (Environmental Science & Technology Letters 2021) had an article titled "Fluorinated Compounds in North American Cosmetics" that discusses some of the issues in more detail.

We all like our floodlights, garage lights, street lights, etc. Research from Lund University and Witwatersrand University published in the journal Current Biology (2021) found that city lights

disrupt and limit the ability of nocturnal animals to navigate by natural light in the night sky. This effect is seen on many insects from dung beetles to moths.

Toxic chemical-based gardening and farming is a major source of greenhouse gasses. The earth's soil contains more carbon than the atmosphere and vegetation combined (The Nature and Properties of Soil, 2016).

However, toxic chemical farming and gardening has released an estimated **133 billion** metric tons of carbon into the atmosphere. The production of artificial fertilizers creates even more greenhouse gasses, and the breakdown of the artificial fertilizer's releases methane gas and nitrous oxides that are far more damaging than just carbon dioxide.

Using obsolete toxic chemical rescue methods not only has destroyed the quality of our food supply and damaged our health, it is also a major source of greenhouse gasses.

Disposing of organic waste in our landfills also generates a tremendous amount of greenhouse gasses. These wastes should be turned into compost and mulch.

As gardeners we can do our part by using compost and native mulch, organic fertilizers, and mineral or rock dusts in our lawns and gardens. Not only does it give better result at far lower cost, we are part of the solution.

Other research has shown that using mineral sands (like Re-mineralizer) in our gardens not only help plants grow stronger and healthier, it also increases the amount of carbon being stored in the soil by orders of magnitude.

As the carbon is being stored it is often in the form of humus increasing the health of out soils, making them better homes for our plant's roots.

As one can see from the paragraphs above, organic gardening is more than just not using toxic chemicals.

The four main principles of organic gardening are seen as consistent and applicable to regenerative agriculture. These are health, ecology, fairness to all life, care of current and future generations by our actions.

"Plants feed the soil microbiome with the molecules of life that they create through photosynthesis. These molecules are the basis of organic matter – carbon-based molecules – that all life of earth depends on. Organic matter is fundamental to all life and soil organic matter is fundamental to all life in the soil".

Gardening practices that increase soil organic matter, also increase fertility, water holding capacity, pest and disease resiliency and thus the productivity of our gardens.

The Acres USA magazine (August 2021) had a nice article on this subject of regenerative agriculture.

Research from the University of Cambridge has found that plants hedge their bets. Many horticultural factors affect when seeds will germinate hence plants have seeds that will germinate at different times and different environmental conditions.

Plants use several techniques to enhance their seed's chance of successfully germinating. They often do this by the use of plants hormones, abscisic acid (ABA) inhibits germination while gibberellic acid (GA) promotes germination.

By balancing these hormones in different amounts, can cause seed germination to be staggered. Another example is that hard seed coats will biodegrade at different rates hence staggering germination, some seeds require chill hours and there are many other strategies plants use.