

JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

I was listening to a customer last week talking about how they love to watch birds in their yard. They then mentioned that they did not have near as many birds as they used to. Next they stated they needed to purchase a Bt product to kill all the caterpillars in their yard as they were falling out of the trees.

What they did not understand is that 90% of bird species when laying eggs or raising babies, require a high protein energy dense diet. By eliminating the caterpillars they were effectively getting rid of the birds as they could not grow and reproduce without their major food source.

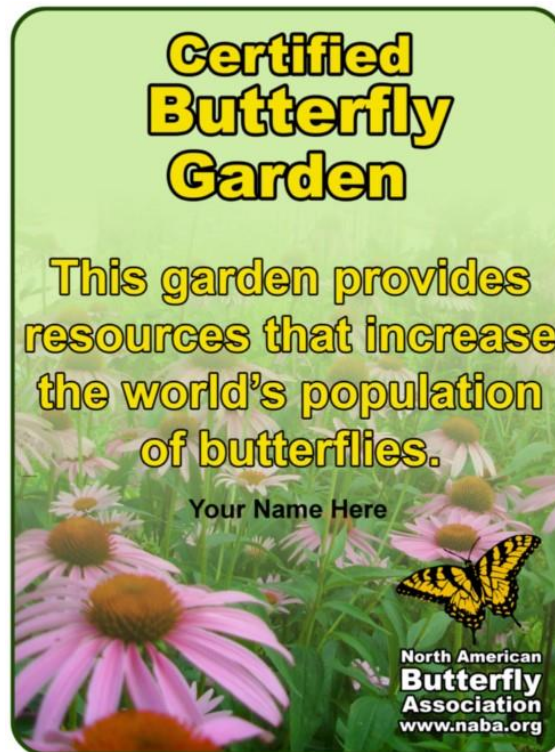
Why does nature have the caterpillars eat the energy-dense new leaves in the spring AND have the birds build nests and lay eggs? God knew what he was doing. The birds (or wasps) will eat most of the caterpillars, the foliage will quickly regrow and the cycle of life will continue.

I also suspect the feeding by caterpillars on the foliage provides other benefits we just do not understand at present (see article below on secondary plant metabolites).

Another benefit of gardening. A study in the journal *Ecopsychology* (April 2020) has found that gardeners had significantly higher levels of body appreciation and pride. They also had a better understanding and appreciation of body functioning. This led to better mental and physical health.

Have you ever wondered how long a seed may remain viable? Scientists at the Hadassah Medical Center and the Hebrew University of Jerusalem collected date palm seeds from the archeological site called "The Fortress of Methuselah" that were dated at over 2,000 years old which sprouted into date palm trees.

The North American Butterfly Association now offers signage and certification for butterfly gardens. One can visit their website and register your garden and for a small fee get the sign below or one on Monarchs.



Many years ago, I attended a lecture by Jerry Brunetti on secondary plant metabolites. A few years earlier Jerry had been diagnosed with terminal cancer with only a few



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months to live. Jerry did his graduate work in animal nutrition and owned a feed company at the time. By using his knowledge of nutrition, he cured himself of cancer and lived another couple decades. One of the things he talked about was how a plants immune system does not waste energy to make chemicals to fight insects until they are eaten on by a pest. He called these chemicals secondary plant metabolites and they were the anti-cancer compounds. Hence, if one wanted to maximize the benefits of eating vegetables look for the ones whom leaves had been nibbled on by insects.

Research by scientists at Texas A&M published in the journal Nature's Scientific Reports (December 2019) has found that organically grown produce (plants) benefited nutritionally from "wounding" caused by insects. They found that the damage by insects caused a stress response in fruit and vegetables which in turn triggered the plant to produce high levels of antioxidant compounds.

Scientists at Iowa State university having been studying planting prairie strips around crop land. After 10 years they found that adding a prairie to a small portion of the farm yields impressive benefits by improving water quality, reducing erosion, creating habitat for beneficial insects, and providing nutrient retention. The results have been so impressive that the federal government is providing grant money through the Conservation Reserve Program (CRP) and the Environmental Quality Incentives Program (EQIP) for land owners to plant prairie strips on their property.

The Organic Consumers Union has a nice article with lots of nutritional information called "**Coronavirus – What Are the Best Alternatives for Self-Care**".