NATURE'S WAY RESOURCES
an organically based service company

www.natureswayresources.com

JOHN'S CORNER:

NEWS FROM THE WONDERFUL WORLD OF SOIL AND PLANTS

by John Ferguson

I read an article the other day on the science of flavor in the Journal of Agriculture and Food Chemistry (2020), on the changes in Whiskey by the University of Tennessee.

Tennessee whiskey is famous for a processing stem called the Lincoln County Process (after the location of the original Jack Daniels distillery) which is required to be called a Tennessee whiskey and made from at least 51% corn. The process is also known as charcoal mellowing as the fresh distillate is passed through a bed of charcoal (usually burnt sugar maple), prior to be placed in oak barrels for ageing for a minimum of two years. They found that the type charcoal used changes the flavor profile.

They identified over 49 different molecules responsible for the flavor. Maybe this is why I enjoy sipping a small glass of Jack Daniels on a cold winter eve.

Numerous studies have shown that organically grown foods taste better beside having more naturally occurring flavonoids and being more nutritious. I wonder what would occur if the distillers used organically grown corn or other grains instead.

If you know someone that enjoys a fermented beverage occasionally, a great Christmas gift might be the following book.

The DRUNKEN BOTANIST- The Plants That Create the World's Great Drinks,

By Amy Stewart, Algonquin Books of Chapel Hill, 2013, ISBN: 978-1-61620-046-6

101 Sherbrook Circle • Conroe, Texas 77385-7750
(936) 321-6990 Metro • (936) 273-1200 Conroe • Fax (936) 273-1655

I reading this book a few years ago and it was fascinating to me. For years, I have enjoyed a glass of wine with a meal, a shot of whiskey or brandy when camping around the campfire and a cold glass of dark beer when cooking barbeque. As one knows, I am also a passionate gardener. This book combines two of my favorite activities.

This book is about all the plants, trees, herbs fruits and flowers used to make alcoholic beverages and their history.

Another paper on the dangers of neonicotinoids pesticides was in the Journal of the Proceedings of the National Academy of Sciences (2020). The research was done by North Carolina State and Pennsylvania State Universities.

They found that when these dangerous pesticides are used, they are absorbed into the plant and into the insect that may feed on the plant. The chemical can be transported through the sap, pollen and nectar.

Other life from birds, amphibians, lizards, to small mammals then eat the contaminated insects poisoning them also. They found that these toxic chemicals bio accumulate in their bodies.

"Insects are food for thousands of different vertebrates, everything from birds to mice". These pesticides only provide a 5% benefit at best.

A couple years ago many nurseries were buying milkweeds from growers that treated seeds with these chemicals. As result, when Monarch caterpillars ate the leaves, it killed them defeating the whole purpose of planting milkweeds in the first place. This is why an Nature's Way Resources we grow a lot of our own milkweeds.

Speaking of pesticides, there is one that was banned in 1972 that is still causing problems. We know it as DDT or the breakdown product DDE. This chemical has been found to take 100 years to biodegrade in soil.

As a result, plants that are grown on contaminated soil will absorb this toxic chemical. As insects that live in the soil or feed on the plants then collect this chemical in their bodies.

When chickens or other poultry eat these plants or the insects, they hyper accumulate DDT in their tissues. This is similar to how large fish like tuna accumulate mercury in their bodies. When we eat chicken or use chicken manure products, we run the risk of being exposed to higher levels of this chemical.

Even if they are organic now, there is a risk if they used DDT in the past, hence best to buy chickens or eggs from local small farmers.

By the way the EPA or USDA does not require that soil be tested for DDT residues for organic certification.

I read an interesting statistic the other day on family pets. Fifty years ago, only 1 in 100 dogs got cancer. Today it is 66 in 100! Cancer is also the leading cause of death in cats. These animals roll around in our lawns and flower beds where toxic chemicals are used and we wonder why.

It makes me wonder what is happening to our children? Public parks, playgrounds, school grounds, etc. are full of these dangerous chemicals like glyphosate and many others where children roll around in and play.

More and more homeowners are growing their own food and herbs (spices). The Journal of Nutrition (2020) has a paper that showed that post meal inflammation could be reduced by spicing up the food.

Food was prepared using a mixture of basil, bay leaf, black pepper, cinnamon, coriander, cumin, ginger, oregano, parsley, red pepper, thyme, and turmeric. Blood sample showed that when the group that ate 6 grams of this spice mix with their food had much lower inflammatory chemicals. Lower levels of the spice mix (only 2 grams) did not provide the same benefits.

The information below is very important, as GMO crops have the highest levels of glyphosate on them which is linked to many health problems like cancer. This is even more important today as eating foods, with glyphosate on them has been linked to greatly increased chance of catching and the severity of the Corona-19 virus. As glyphosate on and in our food prevents the absorption of zinc, magnesium, and other elements that our immune system requires to fight viruses.

From the Organic Consumer Association newsletter:

Information is power and a new database of studies into the harmful effects of GMOs provides powerful proof that **genetic engineering is the wrong direction of travel for our food system.**

The GMO Research Database—a project of GMO Free USA—is an easy-to-use public resource and a valuable research tool for scientists, researchers, physicians, educators and students.

It contains over 2,500 studies, surveys and analyses on the impacts of genetically engineered (GE/GMO/bioengineered) crops, foods and their related pesticides.

The fully searchable database **is available in multiple languages** and contains links to abstracts and studies on **health impacts, environmental impacts, pesticide drift, genetic contamination,** horizontal gene transfer, unintended effects, as well as references regarding yields, social impact, ethics, economics and regulations.

Another study in the Proceedings of the National Academy of Sciences (2020) by researchers at the University of Arizona has found that GMO corn with Bt genes to kill the corn rootworm and the Bt cotton to kill bollworms are failing. The insect pests are developing resistance to these GMO plants.

They also found that a simple solution is just crop rotation provides good control. Just as most experienced gardeners know, NOT to plant tomatoes in the same location two year in a row.

Another study in the Proceedings of the National Academy of Sciences (2020) by researchers at the Pacific Northwest National Laboratory has found a sub class of peptides in the nodules of the legume plant *Medicago truncatula* in the medic family. These chemicals have proven effective is inhibiting the growth of the pathogenic fungus known as grey mold.

They believe that this discovery will lead to a new class of spray on biological fungicides that break down in the soil to amino acids that feed the beneficial microbes.