

Ricky's Gardening Tips and Tricks and Home Horticulture

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Ricky's Gardening Tips and Tricks and Home Horticulture is an online newsletter designed to provide citizens of Allen County and northeastern Indiana with up-to-date information about Horticulture, written in a lighthearted style! To subscribe, send an email to kemeryr7@frontier.com.

I know its been awhile since the last issue, but sometimes I just need to wait until topics that I hope will interest you (and me) to come my way. Pay special attention in this issue to new information about glyphosate and GMO's.

Important Information Regarding Round-up and GMOs

Altered Genes Twisted Truth by Steven M. Druker and *Whitewash* by Casey Gillam are two newly-released books that present alarming documented and research-based information about the negative effects of Round-up (glyphosate) and GMOs on our food systems and public health.



The bottom line according to the authors:

Round-up is highly associated with non-Hodgkin's lymphoma in the farm community and landscape industry. Research has also shown that Round-up is associated with tumors and liver and kidney damage in mice. Round-up residue present in food and humans is common worldwide.

Just recently, California has declared glyphosate as cancer-causing. This has resulted in a flood of lawsuits against Monsanto (and Bayer pharmaceuticals). Recently, a San Francisco jury initially awarded

groundskeeper DeWayne Johnson \$389 million in August, who claimed the use of glyphosate resulted in his cancer.

According to the authors, Monsanto (the maker and marketer of glyphosate) concealed and falsified research results from the very beginning about the negative effects of Round-up, claiming to the FDA, EPA, and USDA that the product did no harm to humans and was quickly neutralized in the environment. According to the authors, these regulatory governmental agencies also ignored evidence about the harmful effects of glyphosate and GMOs from scientists and experts in the industry and the private sector.

Since glyphosate was believed to have no negative effects on humans, glyphosate residues in food were never taken seriously (until recently) by anyone. Research to explore the long-term effects of glyphosate and GMOs was simply not funded.

When Round-up was first released, it seemed like it was the perfect product for weed control. The herbicide targeted a plant-specific biochemical process, so it seemed as if it would be as safe to humans as Monsanto claimed. Since the product was touted as being quickly neutralized by soil microorganisms, soil health never appeared to be an issue.

Regardless, it is a fact that glyphosate works to kill weeds. Spraying glyphosate was much easier for farmers and landscape professionals compared with tillage or the use of other herbicides that persisted in the environment or were less specific for a broad range of weeds. Glyphosate was the perfect herbicide - or so it seemed.

In the 1980s, Monsanto utilized genetic engineering technology to produce Round-up Ready soy beans and corn. With this technology, glyphosate could be sprayed directly on corn and soybeans – killing the weeds but not damaging the crop. Other examples include Round-up resistant canola, tomatoes, cotton, and sugar beets. The issue here was that no long-term research was conducted or available to determine whether food consumed by citizens was safe. The approval of the GMOs was fast-tracked with little knowledge from the general public and with several objections from the scientific community.

The use of recombinant DNA to insert DNA fragments from unrelated species into plants or animals had been strongly discouraged by politicians and scientists since the late 1960s.

The authors document the main reasons against using GMOs were: uncertainty about gene fragments that were linked to other unknown long-term effects on humans and the environment, possible spread of genetic materials to other organisms, the effects of promoter fragments to enhance the process, the use of antibiotic-resistant marker genes, and possible allergic reactions and negative health effects on humans. In addition, several issues with early GMO releases caused harm to people – one example being the inadvertent release of genetically-altered L-tryptophan which caused sickness to thousands of Americans.

The release of Round-up Ready corn and soybeans allowed Monsanto to virtually control all aspects of corn and soybean production in the United States. In 2010, GMOs were present in 75 to 80 percent of conventional processed food in the U.S. Unfortunately, due to cross-contamination and pollen drift, very few products in the U.S. are completely free of GMOs.

Opponents of Round-up Ready crops argued that herbicide use would increase, superweed resistance would become a problem, and cross pollination and contamination of other crops would occur. Despite claims to the contrary from Monsanto, it appears that all these claims from opponents have come to pass. Recently Round-up 2 Ready soybeans containing the herbicide Dicamba were released to try and control weeds that are now resistant to glyphosate.

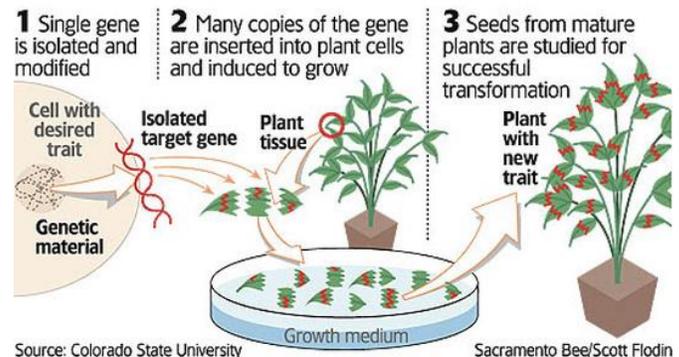
However, the most alarming aspect of GMO food is the contamination and negative health benefits of long-term consumption of food containing glyphosate residue. Just recently, scientists have discovered that glyphosate is indeed present in our food, our water, our soils, and our bodies. Since glyphosate is now linked with cancer and other negative health effects, the recipe for the continued use of GMO foods spells disaster.

Some experts also claim that additional additives to Round-up (called surfactants) added to the cancer-causing qualities of glyphosate.

How could politicians and government regulators be so blind? Round-up is a systemic herbicide. It travels within the plant to kill it. Any drift to a non-target plant will damage or kill that plant. How could we not expect that Round-up sprayed on corn and soybeans and other crops would not end up in that specific plant? According to the authors, the residues do persist and cause harm to people and the environment. I might add that the authors' conclusions are based on their access to court records made available through the Freedom of Information Act. These records include emails and communications from Monsanto officials, regulatory agencies, and scientists.

Genetic engineering

Researchers isolate a gene from an organism that has the trait they want to impart to a plant.



It took a while for the public to learn about how and when GMOs were approved for use by Monsanto for corn, soybeans, and other products. Once information about how genetically-altered food was being used in the system, public outcry began. This coincided with an increased interest from the public for nutritious and healthy food, a demand for organic products that did not contain pesticide residues, and an increased distrust by the public towards government regulatory agencies and experts. The public began to demand more information about what their food contained and whether the food in question was genetically-modified.

The response from Monsanto and government agencies and experts was to deny there ever was a problem, to discourage the labeling of products that did not contain GMOs, and to suppress and discredit any research on the effects of GMO food ingestion and glyphosate residues over the long term.

European countries have long restricted or banned GMOs in their food. Part of this policy was due to the public's insistence on healthy, nutritious food. A now-famous and controversial study by a French researcher only reinforced European resistance to GMOs. A summary is below:

By **MICHELLE CASTILLO CBS NEWS** *September 21, 2012, 11:05 AM*

A French study that supposedly shows that mice who ate genetically modified corn sprayed with weed killer or drank water containing glyphosate were more likely to develop tumors, organ damage and die early is becoming a polarizing debate among researchers.

The two-year study, which was published on Sept. 19 in *Food and Chemical Toxicology*, revealed that mice who were fed either a diet of Monsanto's genetically modified maize sprayed with Roundup - the company's brand of weed killer - or drank water with levels of Roundup similar to what is found in U.S. tap water were much more likely to die and at an earlier age, in addition to other health problems. Tumors seemed to be late-developing, large mammary tumors, and the affected rats suffered from severe liver and kidney damage. The tumors did not metastasize or spread to other body parts, but were so large they blocked organ function in the rats.

"After one year, there was a . . . high increase in the number of tumors," said lead author Gilles-Eric Seralini, a biologist at Caen University in Caen, France and president of CRII-GEN's scientific board.



According to the authors, Monsanto arranged to have the Journal retract the article based on flawed research methods. To my knowledge, this has been the only openly-published research study that has looked at the *long-term* effects of ingesting GMOs and glyphosate. One must also be aware of the peer review process that researchers must go through to publish. This paper was peer reviewed and published without any initial objections.

Recently other researchers have looked at the health effects of glyphosate on biochemical processes related to Alzheimer's, autism, cancer, and kidney and liver disease.

<https://www.ecowatch.com>.

The recent revelations regarding GMOs and glyphosate residue in food were inevitable. Proponents of GMOs and concerned citizens and scientists opposed to GMOs will probably never agree. And until non-biased research is conducted on the long-term effects of glyphosate present in food, this issue will remain unresolved.

My opinion is that we can no longer gamble with the future health and safety of our citizens. Otherwise, we could be faced with the greatest potential health and food catastrophe of all time.

Monarch Butterflies

In my garden, I noticed more monarch butterflies this year. They emerged earlier and continued all the way to the first hard frost. I thought the increased monarch population was because I had a ton of flowers such as sunflowers, Mexican sunflowers, zinnia, and cosmos in my garden. As it turns out, preliminary data collected by the Illinois Butterfly Monitoring Network shows Monarch butterfly population is at the fourth highest level since 1993.

"Monarchs have had a very good year," said Doug Taron, the director of the butterfly network and chief curator of the Chicago Academy of Sciences. Why? The answer is difficult to pinpoint, Taron says. Various factors affect the species' health, including weather, parasites and disease.



Unfortunately, the data from a single year does not indicate a long-term upswing for the Monarch butterfly, which suffered an 88 percent decline in North America from 1999 through 2012, according to the Illinois Department of Natural Resources. In Illinois, the overall population trend has neither increased nor decreased during the past several years, Taron said.

"It's such a beautiful and charismatic species," Taron said. "Its biology is amazing and fascinating. We're continuing to learn so much about it."

The annual migration of North America's monarch butterfly is a unique and amazing phenomenon. The monarch is the only butterfly known to make a two-way migration as birds do. Unlike other butterflies that can overwinter as larvae, pupae, or even as adults in some species, monarchs cannot survive the cold winters of northern climates. Using environmental cues, the monarchs know when it is time to travel south for the winter. Monarchs use a combination of air currents and thermals to travel long distances. Some fly as far as 3,000 miles to reach their winter home!

Monarchs can travel between 50-100 miles a day; it can take up to two months to complete their journey. The farthest ranging monarch butterfly recorded traveled 265 miles in one day.

Traveling South

Eastern North American monarchs fly south using several flyways then merge into a single flyway in Central Texas. It is truly amazing that these monarchs know the way to the overwintering sites even though this migrating generation has never before been to Mexico!

Congregation Sites

Monarchs only travel during the day and need to find a roost at night. Monarchs gather close together during the cool autumn evenings. Roost sites are important to the monarch migration. Many of these locations are used year after year. Often pine, fir and cedar trees are chosen for roosting. These trees have thick canopies that moderate the temperature and humidity at the roost site. In the mornings, monarchs bask in the sunlight to warm themselves.

Overwintering in Mexico

The eastern population of North America's monarchs overwinters in the same 11 to 12 mountain areas in the States of Mexico and Michoacán from October to late March. Monarchs roost for the winter in oyamel fir forests at an elevation of 2,400 to 3,600 meters (nearly 2 miles above sea level). The mountain hillsides of oyamel forest provide an ideal microclimate for the butterflies. Here temperatures range from 0 to 15 degrees Celsius. If the temperature is lower, the monarchs will be forced to use their fat reserves. The humidity in the oyamel forest assures the monarchs won't dry out allowing them to conserve their energy.



Traveling North

As warm temperatures and lengthening days arrive, monarchs become reproductive, breed and lay the eggs of the new generation. This starts the northern journey back to North America. Unlike the generation before them, who made a one-generation journey south, successive generations make the journey north.

Here are a few ways to make your backyard and garden more attractive to Monarch butterflies:

- Plant native milkweed plants, which Monarch larvae eat. Five varieties are easy to find: common, swamp, butterfly, horsetail and poke.

- Add plants that provide nectar such as black-eyed Susans, blazing-stars, purple coneflower, goldenrod asters, ironweeds and wild bergamot.
- Avoid using pesticides or cutting the lawn too often.

I believe many citizens have responded to declines in monarch populations by planting milkweeds and other flowers to allow monarch larvae and nectar plants they need to survive. Good job everyone!

Late Fall Tasks

If you have spare time, spend part of a sunny cool day cutting back perennials in your garden. Leave at least 8-12 inches of foliage to help protect the base of the plant from cold. You could wait and cut back in very early spring, but your history of getting things done on time suggests that this may or may not happen. The reason for cutting back is simply to remove any foliage that might contain disease or insects that may want to revisit next year. Compost any foliage that is not heavily infested with disease or insect organisms. Leave the foliage of ornamental grass uncut until spring for birds and other creatures.

At the same time, collect any seed of your favorite prairie perennials such as coneflower, milkweed, false sunflower, and black-eyed susan. Scatter the seed in seed trays filled with a professional grower's mix. Place the trays outdoors, and cover with chicken wire or hardware cloth. One can also collect seed of redbud, Kentucky Coffee Tree, Buckeye, and oak acorns and use the same method. Just press the seed into the media, and in the spring, you should be rewarded with many seedlings.

Protect the lower trunk of newly planted trees or shrubs with a cage of hardware cloth so rabbits or voles do not damage or kill the plants. This is a very small investment to prevent a ton of heartache next spring if indeed the plants are killed.

I think it is so important to fill raised beds or place on the garden area any excess leaves from the lawn, It is free fertilizer and micronutrients for those areas. Try to avoid sending your leaves to the landfill. Place an eight inch in depth circle of wet leaves around young trees and shrubs – leaving an eight-inch bare space around the base. Your plants will thank you next spring.

Finally, throw some fertilizer on the lawn before the first snow. Research shows that this application does the lawn the most good. Mow the lawn a bit shorter for the last mowing to prevent any snow mold issues – change the oil in the mower and drain the gas tank and say goodbye to mowing (Yay!) until next spring.

Across the Ice

During the winter of 1958-59, our family lived in a small lakefront house on Big Lake – located just north of the town of Wolf Lake in Noble County, Indiana. It was a different time – when I reminisce about it, my children all roll their eyes when Dad talks about the “olden days”.

It was the end of the Eisenhower administration. It was a time of prosperity for many. For me – a precocious 4-year old, it was a time when my world was small. The ice delivery man would deliver blocks of ice packed with sawdust for our small refrigerator. The milkman would deliver thick glass bottles of milk twice a week with cream at the top of the bottles. Occasionally, he would deliver chocolate milk or orange juice. Those were real treats.



When I or my two older sisters were sick - which seemed to be often - our family doctor would visit the house and dole out medicine for our ailments – mumps, measles, whooping cough, or colds.

I spent most of my time under our kitchen table, a Mid-Century table of metal – topped with red Formica that would be worth a pretty penny nowadays.

I wasn't a well-behaved child. I would often throw tantrums when I was hungry or wanted something. My mother was exasperated with my behavior. She would occasionally lift the tablecloth to ask how I was doing and whether I wanted a snack. It was a bit like having a small wild animal who lived under the table.

Our neighbor, Betty Pritchard, would visit occasionally. She liked to gossip about neighborhood doings. She often listened to phone conversations as the entire neighborhood was connected on a party line. Once, when I was throwing a tantrum, she asked my Mother, “What is the matter with that child?”

I got back at her though. She came on another day to visit, and when she began her gossip to my mom, I interrupted to tell her, “My MOM says you talk too much,” I said.

One day in the middle of the winter, my older sisters decided they were being treated unfairly by my mother. This was surprising, since generally they received anything they asked for from Mom. She had trouble saying no.

This time, my sisters were mad enough to rebel. They decided we were all going to run away from home. That would show Mom how unfair it all was. So, while Mom was busy cleaning, doing the laundry, and cooking, my sisters and I bundled up against the cold and snuck outside.

In their infinite wisdom, they decided to take off across the frozen lake to visit my Aunt Stella who lived over a mile away on the other side of the lake.

Aunt Stella was my father's half-sister. Sometimes she smoked small cigars. She spoke her mind. She was always nice to us and very soft spoken and quiet. There were toys to play with, and Stella was a great cook. My sisters weren't stupid.

However, my sisters had no idea how dangerous it was to traverse the ice. Big Lake was in part spring fed, and there were places where the ice was thinner.

It had been cold and windy, and there wasn't much snow covering the ice. In many places the ice was smooth and slick. It was great skating ice. If ice forms under snow, it is much smoother than ice exposed to the wind while it is forming.

It didn't take long until we were cold to the bone. It was also scary because as we walked along, the ice let out tremendous cracks from underneath. Often as ice freezes and thaws, it will crack. I had visions of all of us

being swallowed by the ice and disappearing in the frozen water. We would disappear without a trace. Running away didn't seem like such a great idea.

After what seemed like hours, we finally made it to the other side of the lake. We knocked on my aunt's door. She opened it and without a pause remarked how nice it was for us to visit. "We ran away from home," my sisters remarked.

"Well, you look cold," my aunt said. She served us up some hot chocolate and pie. While we were eating, she called our frantic mother and told her where we were.

Our mother tearfully picked us up and told us never to run away again.

Of course, later on as I was a few years older, I remember not getting my way and telling my mom I was running away. This time, Mom was ready.

She said she was sorry I felt that way and packed sandwiches for me and wished me luck - out on my own. Of course, once I realized I had nowhere to go and more importantly, after I finished the sandwiches, I made my way back home like nothing had happened.

That was the last time I ever threatened to run away. Later, of course, I realized how lucky I was. Unlike others I had met over the years, I had a home where I was loved, despite my faults and weaknesses. I always felt safe. And that – as it turns out - is everything.



Signals

If you think about it, woody shrubs and trees respond to signals from the environment– and also are forced to respond to the sometimes irrational and confusing signals we citizens send to them. No one said that communication was easy. If only the plants could just tell us what they needed and when.

In the spring and during the early growing season, shrubs and trees produce foliage and flowers and seeds. Later the foliage produces carbohydrates that are stored into the root system for next year's growth. Most folks don't realize that most trees and shrub are done growing (top growth) in July. The rest of the year is spent on sending resources to the root system for storage for next year's growth.

Over fertilizing with high nitrogen fertilizer in the spring and summer sends the wrong signal to a tree or shrub. The plant robs resources from the root system to produce more growth than it needs. The result is a weak lanky plant with a poorly developed root system. You observe this with nursery trees that are 12 -15 feet in height with a 2 foot diameter root ball. These trees will establish poorly if at all in a home landscape. Overfertilizing in late summer can also send signals to the plants to keep growing instead of slowing down for the approaching winter. The plant can be damaged or killed by winter freezes.

It is better to provide slow-release fertilizer to the plant over the long term to keep the plant in balance. Materials such as compost that provide micronutrients and nutrition slowly to the plant in my mind are the best.

Over pruning also reduces the plants ability to produce and store resources for next season. It is my general rule to only prune about a third of a plant each year. Pruning more than a third sends a signal to the plant to use stored resources in the root system to produce copious shoot growth. This practice ultimately results in bushier top-heavy plants with weaker root systems. Pruning in late summer, can also result in plants not hardening off properly. Topping trees also results in trees with weaker root systems. Disastrous results occur when one both over-fertilizes and over prunes- which is actually a common practice. Better to send the right signals and keep your ecosystem in balance.

Late Fall Color

Experts have reported that leaves are changing their colors later than average this year for most of the Eastern U.S.

Over 20 years ago, when I first began my Extension career, leaves began changing color in early October. This season, some trees have yet to turn in early November. Once again, above-average temperatures for the year appear to be the cause.

Besides messing up our leaf color viewing schedule, trees have responded to climate change in various ways. Experts worry that trees will not enter deep dormancy and be more susceptible to winter damage. It is also known that many nut trees are not bearing fruit as they did in the past.

Warm, sunny days with cool nights are the ideal conditions for a colorful change. Soil moisture is also important. Both drought and excessive rainfall can be detrimental to a spectacular foliage season.

Hoggles' Demented Cat Logic



To my Caregiver:

I am starting the first national chapter of GMO Free Felines. GMOFF. I expect to be fed organic non- GMO food for the rest of my days.

Donations to support the cause are accepted – any amount in the form of checks is fine to cover some expenses. Send to Ricky Kemery 5929 Lorman Court Fort Wayne, Indiana 46835

To subscribe to this electronic newsletter, send an email to kemeryr7@frontier.com - or text 260-431-6893. I will not share information with others. If you need a speaker for neighborhood association meetings, business groups, or other organizations, I will be glad to come and talk about gardening, landscaping or turf, the environment, sustainability. I will also diagnose plant disease or insect issues (for a small fee) Just contact me at 260-431-6893.

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