

# Home Horticulture

## Ricky's Gardening Tips and Tricks Mid - Spring 2019 Issue

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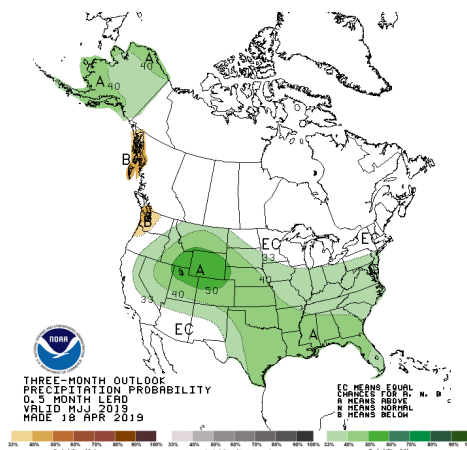
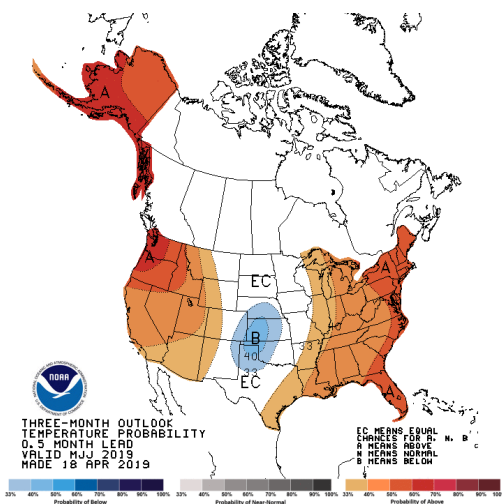
**Ricky's Gardening Tips and Tricks and Home Horticulture** is an online newsletter designed to provide citizens of Allen County and northeastern Indiana with up-to-date information about Horticulture and home issues, written in a lighthearted style! To subscribe, send an email to [kemeryr7@frontier.com](mailto:kemeryr7@frontier.com).

## A Strange Spring

As I mentioned in the last issue of Home Horticulture; the national weather service predicted a cooler spring this year in our area. It has been tough for gardeners to get out into the garden because we have also received above average rainfall so far.

I was fortunate to clean up my raised beds earlier this year during the few warmer drier days in early April. It is why I prefer raised beds – one can prepare and plant raised beds when all one can do is stare at a conventional garden when it is too wet to cultivate and plant.

My lettuce, chard, and spinach are up and growing slowly because it is too miserable for even them to grow well. My poppies are up along with some other cool season annuals. The outlook for May, June, and July 2019 calls for slightly above average temperatures and precipitation. We are currently under the influence of a weak El Nino weather pattern which should last at least until fall.



Expect the garden centers to become insanely crowded as it eventually becomes warmer and sunnier. One thing I have noticed is that prices of plants and horticulture products are much higher this season. Woody trees and shrubs and perennials have almost doubled in price compared with last year.

## Emerald Ash Borer Update

Emerald ash borer (EAB) was introduced to North America during 2002 in an ash wood packing crate sent to Detroit - probably from China. As of January 2019, emerald ash borer infestations were known to be present in 35 states as well as five Canadian provinces.



Emerald ash borer was discovered in Indiana in 2004 near Fremont Indiana by Tom Eichholtz, the then Agriculture Extension Educator in Steuben county. City forester Bill Dietrich and I met with Purdue Extension specialist Cliff Sadof a few years later in Fort Wayne to show Dr. Sadof the extensive damage in Allen County. We were the first to notice the severe woodpecker damage caused in ash trees infested with EAB. I remember meeting with then Mayor Graham Richard's staff to inform them about EAB.

There are three major EAB control efforts that show great promise for the future.

Beneficial wasps that exclusively attack and kill emerald ash borer continue to be released and increase in numbers in the wild.

Researchers continue to discover and breed potentially EAB resistant trees.

Pesticide control options are generally cheaper and provide longer lasting management options.

Three species of small, stingless wasps are being used to control EAB throughout Indiana and the US. These wasps kill large percentages of EAB in their native range in Asia. All wasps have been thoroughly tested to ensure that they will not attack native insects.

It will be many years before we know if biocontrol can protect ash species against EAB. But there are some encouraging research results from study sites in Michigan where parasitoid releases began in 2007. Reductions in EAB densities following parasitoid releases were correlated with increased parasitism, first by native larval parasitoids then by the introduced parasitoids as EAB densities declined. The combined mortality of EAB caused by woodpeckers, the native and introduced parasitoids, intraspecific competition, disease, innate tree defenses, and reduced ash abundance contributed to the collapse of EAB populations in this region.

Tree inventories at the Michigan study sites found low numbers of large ash trees survived, while the numbers of ash sprouts, saplings, and small to medium trees are increasing.

Although more wasps are reared every year, they are only given to professionals for release to ensure that they have the best chance for success. Wasps have been released in our area by Dr. Sadof almost from the time of the first infestation of ash borer in Fort Wayne.

Research has shown that healthy native Blue ash and Manchurian ash may be resistant to EAB.

It is now known that insecticides can extend the life of healthy ash trees during an EAB infestation indefinitely. Homeowners who protect large trees from EAB will usually spend less money and have more shade than those who chose to remove them.

In my opinion, treatment of ash trees for EAB is best done by professionals because improperly applied pesticides used for EAB control (especially pesticides for homeowner use) can be very toxic to bees. If any flowers such as dandelions are near the treated tree – bees visiting the flowers to feed on pollen will likely die.

Pesticides applied by professionals containing emamectin benzoate (Triage) have consistently provided highly effective EAB control for two and even three years by a professional with a single application. Two web sites used as sources with more information about EAB are here:

<https://extension.entm.purdue.edu/EAB/FAQ.html>

<https://extension.entm.purdue.edu/EAB/PDF/NC-IPM.pdf>

# Generic Plants

Another phenomenon I have noticed this spring is the trend – in the big box stores – to sell what I refer to as “generic” plants. These are plants that are not named cultivars – just named species. Let me explain. I went looking for broccoli transplants the other day. Now I especially prefer broccoli cultivars such as “Romanesco”- an Italian heirloom - or “Waltham”.

Imagine my surprise when I picked up a broccoli transplant at the box store. The tag read “Broccoli”. I looked at other transplants of vegetables and herbs on the same rack. There were plants marked “Cabbage”, “Parsley”, “Cucumber”, “Squash ---- Hmmm..... how disappointing.

I remember long ago when the grocery stores tried to offer generic products to their customers. The products came in plain white boxes with black lettering ..... boxes marked “Bran Flakes” “Flour” “Sugar” ... you get the drift.

The idea was (this was when inflation was high) that simpler packaging and off brand products would be cheaper and popular with consumers.

This brilliant marketing concept lasted only a few years. Consumers quickly realized they were not really saving that much money, some products were inferior, or the same as brand products, or just plain boring.

Serious gardeners want to know exactly what cultivars they are planting because there is tremendous difference between those cultivars, and many have become favorites. How interesting it is to try different cultivars of vegetables – including heirloom varieties that have been around for a few hundred years.

Evidently the box stores think most gardeners just don’t care about what kind of broccoli, cabbage, marigold, geranium, begonia, we actually plant in our gardens. I think many gardeners do care and these generic varieties will have about as much as a long-term future as the generic groceries from long ago.

Interestingly, even the box stores have tons of tomato cultivars; including heirloom tomatoes. Even they know that a customer would throw a fit if all they had to choose from was “tomato”.



## More Round-UP News

The U.S. Environmental Protection Agency on Tuesday said it "continues to find that there are no risks to public health when glyphosate is used in accordance with its current label - and that glyphosate is not a carcinogen."

This differs from a 2015 statement from the World Health organization which proclaimed that glyphosate – the active ingredient in the herbicide Round-Up, “was a probable carcinogen”. Jurors in two recent court cases awarded large settlements to individuals who claimed that they contracted non-Hodgkin’s Lymphoma as a result of using Round-Up.

Environmental advocates, including the National Resources Defense Council, denounced the EPA's decision.

Updated on: May 1, 2019 / 6:08 PM / MoneyWatch

<https://www.cbsnews.com/news/roundup-weed-killer-is-safe-epa-says-giving-bayer-a-win/>

## Sphagnum Peat



Peat moss is ancient sphagnum moss, reed or sedge that has decayed to form a dense matting of material. Sphagnum peat grows in cold moist northern regions of the world. As it grows, dies, and decomposes, deep peat bogs are formed, and dried peat has been used for centuries by humans.

Early mention of the use of peat dates back at least to Roman times when it was used as a fuel in homes. Peat continued to play a significant economic role in countries where trees were scarce, such as Ireland and Scotland, serving as a local fuel source

in replacement of wood. In Finland and Ireland, it is still used today at an industrial scale to generate electricity.

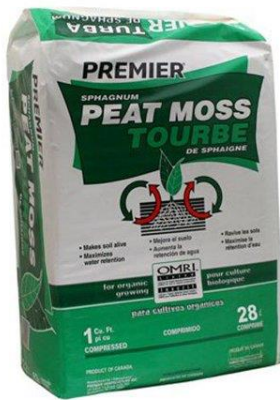
Peat is harvested in many different countries including China, Ireland, Canada, Finland, Sweden, Soviet Union and in the United States. Peat dust was mixed with molasses and given to livestock. It was eaten by humans in China during famine periods throughout history and the Laplanders made bread from it. I am not sure that peat “bread” would be very tasty, but perhaps a Christmas peat fruitcake would be appreciated. The fruitcake could last hundreds of years....

Peat was used in the 1700s and 1800s as bedding material for animals. It was much more plentiful in some areas than hay or straw and worked just as well if not better. It absorbed liquid, so it kept livestock clean and dry when they had to be indoors. It also neutralized any odors from animal waste.

Peat moss was used to heat homes in Ireland more than 1,300 years ago. It was also used to heat fires and stoves for cooking. Once coal was mined, using peat for fuel took a back seat, but once World War I started, it became the mode of heating and cooking once again.



An old remedy uses tea made from peat that will stop bleeding and help any diseases related with the eyes. Sphagnum moss was used to dress the wounds of soldiers in World War I. It has been used to treat sores and wounds since ancient times as well. It was developed into surgical dressing in Germany and is still used today. For wounded humans, the result is that sphagnum bandages produce sterile environments by keeping the pH level around the wound low and inhibiting the growth of bacteria.



Currently, the most common use of *Sphagnum* is by gardeners. They often mix dried sphagnum (peat moss) with soil to improve the water- and nutrient holding capacity of soil. Sphagnum peat is fabulous for improving and breaking up clay soil. I always tell gardeners to make sure the product comes from Canada. Other peat sold at garden centers is just muck – and it does not have the same benefits as the Canadian sphagnum peat.

Sphagnum moss was also used by Native Americans, who lined their children's cradles and carriers with it as a type of natural diaper.

In Scotland, sphagnum also has an important role in the making of scotch whiskey. Many scotches are made from grains are steeped in water from a sphagnum bog during the malting procedure. Later, the malted grains are boiled over a fire of burning sphagnum peat. These uses of sphagnum peat impart a characteristic flavor and aroma to scotch whiskey. I know I always appreciate the bouquet of peat whenever I down a shot of whiskey,,,,,,

Many efforts have been made to ensure the survival of bogs. In Canada for instance, millions of acres of bogs have been protected by creating natural parks that are not harvested.

Sources: Greenaway, T. *Mosses and Liverworts*. Austin, TX: Raintree Steck-Verlag, 1992. Margulis, Lynn, and Karlene V. Schwartz. *Five Kingdoms* New York: W.H. Freeman, 1988. Richardson, D.H.S. *The Biology of Mosses* New York: Wiley, 1981. Peter A. Ensminger



## Miracle Grow Performance Organics All Purpose Plant Nutrition Granules

This season the folks from Miracle grow decided to enter the organic fertilizer market. This is because they are not happy just selling conventional fertilizer made using expensive and environmentally – unfriendly methods. Consumers want organic products and so it is good that they are driving companies to offer organic products.

Miracle Grow Performance organics is another example of slick marketing – of an already brand recognizable name - to the environmentally – conscious and aware Millennials and Gen Z

gardeners that I mentioned in the previous issue of Home Horticulture.

This product is certified by the OMRI (Organic Marketing Research Institute) as having organically suitable ingredients. The All-Purpose Plant Nutrition Granules contain: Feather Meal, Soybean Meal, Nitrate of Soda, Sunflower Hull Ash, Bone Meal, Rock Phosphate, and Sulfate of Potash

The analysis is 9-2-7 which means it contains a bit more nitrogen than some organic fertilizers. The product also contains some micronutrients such as sulfur, magnesium, and calcium. It is also good that they nitrogen comes from three different nitrogen sources. The product covers 165 square feet (a little more than a 10 x 15-foot area) and cost about ten bucks. This product would be better in my opinion to use in raised beds or containers, because trying to use this in a larger conventional garden would get pricey.

## Lisianthus



This year I decided to plant Lisianthus in my garden once again. I had planted this native American wildflower at Purdue when I worked at the Horticulture Gardens there and I loved the rich look of the flower. The actual scientific name of Lisianthus is *Eustoma*, coming from the Greek words *eu* meaning good and *stoma* meaning a mouth or a pretty face; a reference to the showy flowers. In the wild, Lisianthus seems to primarily grow as a biennial, but it is used in gardens as an annual. The name Lisianthus is a composition of two Greek words; Lysis (which means bitter) and Anthos (which means flower). This name refers to the taste of the flower. In ancient times, people ate the flower for medical purposes. The Japanese (Sakata seeds) took this flower and developed cultivars many years ago. Lisianthus is not easy to propagate and transplants of this beauty are a rare find. In Fort Wayne, Stucky's greenhouse on Tyler street is one place to find transplants.

Amended Source: Gerald Klingemann, retired Extension Horticulturist – Ornamentals Extension News - August 11, 2006

# Beech Leaf Disease

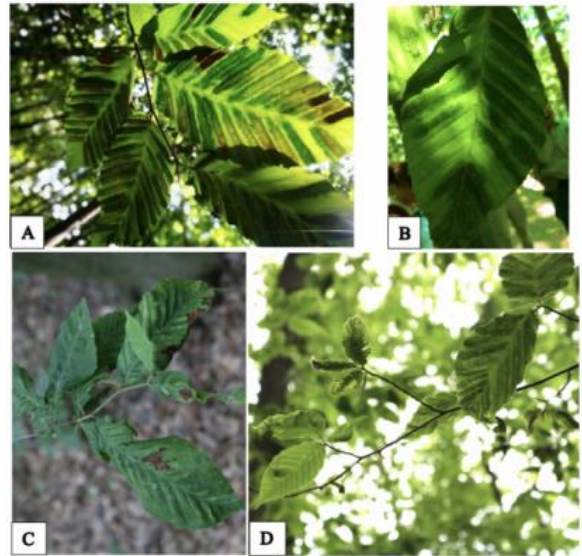
About 15 years ago, I noticed the decline of beech trees in our area. As it turns out, the decline and death of beech trees was caused by a disease known as beech bark disease. Now it appears as if another “disease” is killing our native American beech trees.

Beech leaf disease is first characterized by dark green “bands” that appear between the veins of the trees’ leaves. In later stages, leaves become uniformly darker, shrunk, crinkly and leathery. Affected limbs stop forming buds and, over time, the tree dies. Young trees seem to be particularly vulnerable

The disease has been found in 11 Ohio counties, eight Pennsylvania counties and five counties in Ontario, Canada. From 2012 to 2016, the disease spread in one Ohio county at almost 1,250 acres a year. The threat is significant in Ohio and throughout more than 30 states in the eastern U.S., where beech trees are common and serve as habitats for a variety of animal species and as food for woodland birds and mammals, including squirrels and bears.

Scientists can’t be sure yet what is causing beech leaf disease, but researchers at Ohio State think that the symptoms point to a microbe rather than an insect. In addition to American beech trees, or *Fagus grandifolia*, the disease has been reported in European (*F. sylvatica*) and Oriental (*F. orientalis*) species in nurseries and at the Holden Arboretum in northeastern Ohio.

Source: Journal of *Forest Pathology*, The Ohio State University



## Bio-Tech and EAB

For the past several decades, biotechnology has been used to manage insect pests in agricultural and forest systems. More recently a new generation of biotechnology, RNA interference (RNAi), has emerged as a tool in insect pest management. RNAi uses double stranded RNA to “silence” or “turn off” specific genes. Researchers are now looking at using RNAi to fight the invasive tree pest, the emerald ash borer.

Preliminary research has shown that feeding EAB larvae particular RNA fragments causes larval mortality. Scientists are currently screening additional genes to find those that cause the highest EAB mortality when used in RNAi.

In the future researchers will look for ways to use this technology in a field setting. Two examples include exploring the potential of developing a pesticide specific for EAB as well as genetically modifying ash trees so they would be resistant to EAB.

Source: The use of RNAi technology to manage emerald ash borer (*Agrilus planipennis*) Dr. Thais B Rodrigues, Dr. Lynne K. Rieske-Kinney, and Dr. Ellen Crocker

### **Ricky's Thoughts**

Little is known about the long-term effects of GMO “silencers” that turn off genes. Since genes are often linked, scientists need to perform strict long-term testing to ensure they do not release a GMO monster that could have disastrous effects on the ecosystem. (I visualize a *Stranger Things* Mind Flayer). We already have GMO food contaminated with glyphosate. Maybe we just do not need a GMO tree – especially since the release of parasitoids and attack by natural predators appears to be working.

## **Poppies and The Great War**

8.5 million soldiers dead of battlefield injuries or disease during World War 1. Across northern France and Flanders (northern Belgium), the brutal clashes between Allied and Axis soldiers tore up fields and forests. But in the warm early spring of 1915, bright red flowers began peeking through the battle-scarred land. These flowers were *Papaver rhoeas*, known variously as the Flanders poppy, corn poppy, red poppy and corn rose. At the time, poppies were considered a weed of fields and waste areas.



Lieutenant Colonel John McCrae, who served as a brigade surgeon for an Allied artillery unit, spotted a cluster of poppies that spring, shortly after the Second Battle of Ypres. McCrae tended to the wounded and got a firsthand look at the carnage of that clash, in which the Germans unleashed lethal chlorine gas for the first time in the war.

Some 87,000 Allied soldiers were killed, wounded or went missing in the battle (as well as 37,000 on the German side); a friend of McCrae's, Lieutenant Alexis Helmer, was among the dead.

Struck by the sight of bright red blooms on broken ground, McCrae wrote a poem, “In Flanders Field,” in which he channeled the voice of the fallen soldiers buried under those hardy poppies. Published in *Punch* magazine in late 1915, the poem would be used at countless memorial ceremonies, and became one of the most famous

works of art to emerge from the Great War. Its fame had spread far and wide by the time McCrae himself died, from pneumonia and meningitis, in January 1918.

Across the Atlantic, a woman named Moina Michael read “In Flanders Field” in the pages of *Ladies’ Home Journal* that November. As a remembrance of the sacrifices of Flanders Field, Michael vowed to always wear a red poppy. After the war ended, she returned to the university town of Athens, Georgia, and came up with the idea of making and selling red silk poppies to raise money to support returning veterans.

In mid-1920’s, she managed to get Georgia’s branch of the American Legion, a veteran’s group, to adopt the poppy as its symbol. Soon after that, the National American Legion voted to use the poppy as the official U.S. national emblem of remembrance.

Today, nearly a century after World War I ended, millions of people in the United Kingdom, Canada, France, Belgium, Australia and New Zealand don the red flowers every November 11 (known as Remembrance Day or Armistice Day) to commemorate the anniversary of the 1918 armistice.

In the United States, the tradition has developed a little differently. Americans don’t typically wear poppies on November 11 (Veterans Day), which honors all living veterans. Instead, they wear the symbolic red flower that was once a common weed on Memorial Day—the last Monday in May—to commemorate the sacrifice of so many men and women who have given their lives fighting for their country.

### **“In Flanders Fields” by John McCrae**

In Flanders fields the poppies blow  
Between the crosses, row on row,  
That mark our place; and in the sky  
The larks, still bravely singing, fly  
Scarce heard amid the guns below. We are the Dead. Short days ago  
We lived, felt dawn, saw sunset glow, Loved and were loved, and now we lie  
In Flanders fields. Take up our quarrel with the foe: To you from failing hands we throw  
The torch; be yours to hold it high.

If ye break faith with us who die We shall not sleep, though poppies grow In Flanders fields.

Condensed from: Armistice Day - by Sarah Pruitt

# Biochar



Biochar is a type of charcoal that is created when organic matter is burned slowly, with a restricted flow of oxygen, until the material reaches the charcoal stage. Unlike wood ash, coarse lumps of charcoal are full of crevices and holes, which help them “hang onto” soil microorganisms. The carbon compounds in charcoal form loose chemical bonds with soluble plant nutrients so they are not as readily washed away by rain and irrigation. Biochar alone added to poor soil has little benefit to plants, but when used in combination with compost and organic fertilizers, it can dramatically improve plant growth while

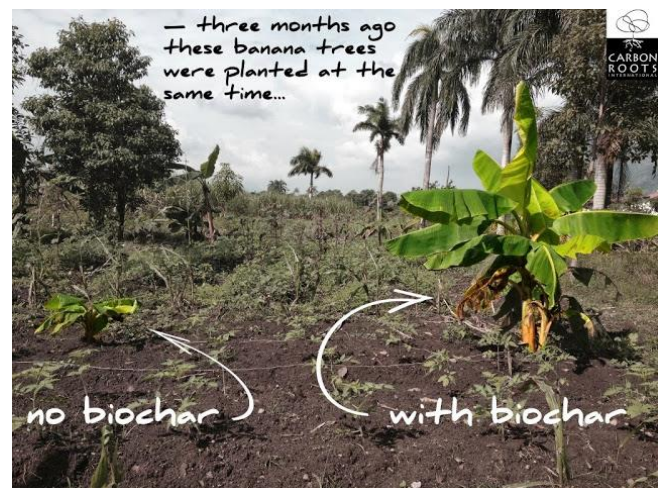
helping retain nutrients in the soil.

The idea of biochar originally comes from the Amazonian rain forests of Brazil. Ancient Amazonian tribes grew cassava, corn, and numerous tree fruits in soil (called dark earth) made rich with compost, mulch, and biochar.

Scientists disagree on whether the soils were created on purpose, in order to grow more food, or if they were an accidental byproduct of the biochar and compost generated in day-to-day village life along the banks of the Amazon.

Scientists around the world are working to better understand how biochar works. Cornell University microbiologists have discovered bacteria in dark earth that are similar to strains that are active in hot compost piles. The presence of abundant carbon makes microorganisms in dark earth live and reproduce at a slowed pace. The result is a reduction in the turnover rate of organic matter in the soil, so composts and other soil-enriching forms of organic matter last longer.

In field trials with corn, rice and many other crops, biochar has increased productivity by making nutrients already present in the soil better available to plants. Results are especially dramatic when biochar is added to good soil that contains ample minerals and plant nutrients. Digging in nuggets of biochar in organically rich soil — or adding them to compost as it is set aside to cure — can slow the leaching away of nutrients and help organically enriched soil retain nutrients for decades rather than for a couple of seasons.



To enrich soil, make a habit of gathering the charred remains of logs from a woodstove or partially-burned campfire. Take them to your garden and give the soil a light dusting of biochar by giving the charred wood a good smack over the soil with the back of a shovel.

Charcoal briquettes used in grilling are probably not a good choice. They can contain paraffin or other hydrocarbon solvents that have no place in an organic garden. Charred weeds, wood, or cow pies are better materials for using this promising soil-building technique based on ancient gardening wisdom.

To make biochar in your garden, start by digging a trench in a garden bed. (Use a garden fork to loosen the soil in the bottom of the trench and you'll get the added benefits of this "double-digging" technique.) Then pile brush into the trench and light it. (Try not to set the neighborhood on fire),

You want to have a fire that starts out hot but is quickly slowed down by reducing the oxygen supply. The best way to tell what's going on in a biochar fire is to watch the smoke. The white smoke, produced early on, is mostly water vapor. As the smoke turns yellow, resins and sugars in the material are being burned. When the smoke thins and turns grayish blue, dampen down the fire by covering it with about an inch of soil to reduce the air supply, and leave it to smolder. Then, after the organic matter has smoldered into charcoal chunks, use water to put out the fire. Another option would be to make charcoal from wood scraps in metal barrels. Since some communities (such as Fort Wayne) prohibit open burning, one will have to create biochar in a container approved for burning in the city.



I am wondering if we can combine the practice of hügelkulture with biochar. Hügelkulture involves the practice of burying small limbs in a garden bed and then allowing the limbs to slowly decompose and amend soil over time. Since this idea is a "hot" gardening topic; why not just char the limbs before burying them?

This practice would be called Hugelcharring -small drum roll – I think the folks on "Shark Tank" would be interested.

I also like the cow pie idea. Imagine being arrested for rustling cow pies from a pasture and explaining to the police you just needed the cow pies to "char" for your garden. The scintillating aroma from charred cow pies would also certainly be appreciated by the neighbors.

Controlled charring of weeds, pruned limbs, and other hard-to-compost forms of organic matter, and then using the biochar as a soil or compost amendment, can result in a zero-emission carbon cycling system.

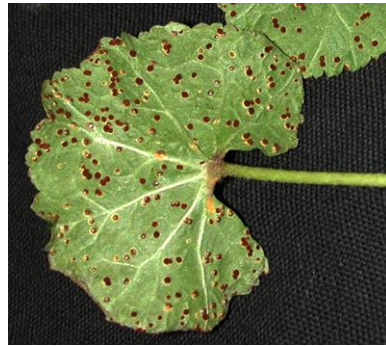
This simple melding of soil and fire, first discovered by ancient people in the Amazon, may be a "new" key to feeding ourselves while restoring the health of our planet. I for one would love to put a sign in my raised beds stating, "These Garden Beds Have Been **bio-charred**" Not something one sees every day.

To learn more about this fascinating topic, read *Amazonian Dark Earths* by Johannes Lehmann.

*Source: revised and condensed from an article written by Barbara Pleasant.*

# Expect a Fungus Year

Conditions are near perfect for the average fungal pathogen – just looking for love – in the form of wet conditions to grow and prosper. Expect to see these fungal diseases in the area in the coming weeks. From left to right: Apple Scab, Hollyhock Rust, and Cedar Apple Rust. If you want leaves on your crabapple this summer, you might have trees sprayed by a landscape professional. Preventative fungicides can be applied to your hollyhock before the fungal pustules appear on the plant. Cedar apple rust is pretty to look at, and since it has alternate hosts – difficult to control



## Hoggles



### To Chinese Scientists:

*I really have had it with my insensitive, arrogant caregiver who does not even pretend to care about me or my needs anymore. Could you please send me some of your GMO “silencers” so I can “spice up” his food when he is not looking. He needs silenced ..... forever.....*

Donations to support the cause are accepted – any amount in the form of checks is fine to cover some expenses. Thank you to all who have sent donations ....they are greatly appreciated. Send to Ricky Kemery 5929 Lorman Court Fort Wayne, Indiana 46835

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