Can trees tame the automobile? Recalling last summer, when a car careened down Troy’s Congress Street, wiping out a promising sycamore before landing in the window of the former Bumstead Chevrolet, I’d say not a chance. But, if given the opportunity, trees can act slowly and quietly, and in ways we humans don’t understand. From mitigating the polluting effects of cars to even calming down angry drivers, research now shows trees can make a difference.

Dan Burden, Executive Director of Walkable Communities, Inc., has compiled 22 benefits street trees provide, many of them contrary to common urban planning and traffic engineering myths. Let’s start with the fact that trees produce reduced and more appropriate urban traffic speeds. According to Burden, urban street trees create vertical walls framing streets, providing a defined edge, helping motorists guide their movement and assess their speed (leading to overall speed reductions). Street safety comparisons show reductions of run-off-the-road crashes and overall crash severity when streets with trees are compared with equivalent treeless streets. These observations are seen in the real world when following motorists along first a treed portion of a street,
and then a non-treed portion. Speed differentials of 3 mph to 15 mph are noted, Burden reports. In a similar vein, trees along a street make a safer walking environment by creating both a visual and physical wall along sidewalks. Street trees can help deflect or fully stop a carelessly driven car from taking a human life.

Trees are also big factors in making an environment more pleasant and safe. As Burden says, “there are few street-making elements that do as much to soften wide, grey visual wastelands created by wide streets, parking lots and massive, but sometimes necessary blank walls than trees.” An urban space with a positive vibe encourages walking, talking, community pride, home ownership and care of place. This in turn leads to increased neighborhood surveillance of homes, businesses and community spaces, increasing overall safety. For those who think primarily in terms of dollars and cents, studies show businesses on treed streets have 12% higher income than those on treeless blocks. Many commercial interests could take advantage of the fact that people want to shop and spend more in a greener environment.

When surrounded by ugliness, humans show increased blood pressure and reduced emotional health. Trees, along with other urban greenery, work to reduce blood pressure readings. Burden quotes Kathlene Wolf, a social scientist from University of Washington, who notes that trees have a calming and healing effect on ADHD teens and adults. Less road rage occurs in green urban areas compared to stark suburban areas.

Trees get credit, too, for mitigating motor vehicle pollutants, including carbon monoxide, volatile organic compounds, nitrogen oxide and particulate matter. All of these tailpipe emissions impact human health. In a warming world (sorry, government leaders) temperatures beneath a street tree canopy average 5 to 15 degrees F cooler, making city sidewalks livable. I’ve covered less than half of Dan Burden’s list, but you get the point: urban trees matter.

The theme for the 30th Capital District Garden and Flower Show, held March 24-26, was “Diamonds and Pearls.” This group of Master Gardeners from Rensselaer, Albany and Schenectady counties were worth their weight in gold when they helped develop living displays by planting 1,000 bulbs and flowers. Thanks to Rensselaer County Master Gardener MaryLee Kopache for the photo.
It's been another cold week here in the Hudson Valley. As I write this, snowflakes the size of marshmallows are coming down in a frantic frenzy. The big snow of March 14th is nowhere near being melted away, with dirty drifts still well over a foot deep slumbering everywhere. The weatherpeople have promised the sun will return on Wednesday next week. It is probably too much to bet on that day breaking this winter’s back, but I'm going to be an optimist anyway.

Without yet being able to putter around in the garden, I'm still working through my pile of books and magazines dedicated for winter diversion. One article I've especially enjoyed is entitled “The Wisdom of Trees” by Cathy Newman in the March 2017 edition of National Geographic. I've been reading Nat Geo since 1969, when my uncle sent a 5 year-old me a subscription. This story points out the many ways we humans connect to our leafy friends.

Trees are sometimes wrapped up in our pursuit of science. Although the apple didn’t land on his head, a falling fruit did attract the attention of Cambridge University’s Sir Isaac Newton while on a visit to his childhood home in Lincolnshire, England. After observing an apple hit the turf in 1666, the seed of the law of gravity germinated in his mind. Although the original “gravity tree” toppled in a storm about 1820, its remains regenerated into a specimen which is still revered today.

The word “strange” doesn’t begin to describe some trees. In Utah’s Fishlake National Forest, a quaking aspen known as the Pando clone covers 106 acres and is estimated to weigh 13 million pounds. It is judged to be a single organism, grown from a single seed, yet it has 47,000 tree trunks. The genetically-identical trunks we see today are no more than 150 years in age, but the root system might be the oldest living thing on Earth, perhaps dating back 80,000 years. Quite suitably, Pando is Latin for “I spread.”

The great age of some trees also fascinates us. Methuselah is a bristlecone pine discovered in 1957 by scientist Edmund Schulman, who believed tree rings could reveal details of climate history. Resembling gnarled driftwood, this specimen’s exact location in eastern California’s White Mountains is kept secret to protect it. Schulman found Methuselah had 4,789 rings and it was believed to be the oldest bristlecone pine until an even more elderly one was found in 2012. Prometheus, a pine which also vying for the record, was cut down in 1964 after a drill bit used for core sampling broke inside the trunk. Not everyone should use power tools.

Trees also mark human tragedy. A parking lot elm endured the blast from 1995’s Oklahoma City bombing despite being scorched and having debris embedded in its trunk. Similarly, a Callery pear which survived the World Trade Center destruction was nurtured for years at a nursery before being re-planted at the renewed site. Fortunately for mankind, hope springs eternal.
A fairy is tiny being in human form, depicted as clever, mischievous and possessed with magical powers. Diminutive fairies of one kind or another have been recorded for centuries in different cultures. They go by many other names: leprechauns, jinni, nymphs, tree spirits, sprites, gnomes, elves, imps, pixies and wee folk. They have been celebrated in legend, literature, art, theater, and music. Why, as gardeners, should we be included in this list?

Theosophist, E.L. Gardner (appropriately named) likened fairies to butterflies, but whose function was to provide an essential link between the energy of the sun and plants in order to stimulate growth. "That growth of a plant which we regard as the customary and inevitable result of associating the three factors of sun, seed, and soil would never take place if the fairy builders were absent."

So, if we want to have beautiful gardens, we should invite and encourage the presence of fairies in every way possible. The best way to do this is to provide them with tiny houses constructed of natural material in quiet places away from roads or pathways. If you want to turn a fairy’s disposition from mischievous to downright malevolent, just go tromping too close to their domicile. They take great revenge for this offense and you’ll need to make use of protective charms to ensure your safety, such as wearing your clothing inside out, carrying a four leaf clover or a cold iron item with you at all times, keeping a piece of stale bread in your pocket or holding an herb such as St. John’s Wort.

What can we build to please such enchanted and demanding creatures? The basic tenet of human real estate applies to fairy buildings also: location, location, location. They require quiet secluded spots surrounded by nature. That might be in the woods, in a meadow, a hidden spot in the garden, in the base of a tree or up in its branches, behind a sand dune at the beach, or built into an outcropping of rock.

Text and photos by Rensselaer County Master Gardener Diane Madden
And as to the materials these houses are made of… no engineered wood and plastic moldings from Home Depot or Lowes…no way! They demand only the finest organic natural materials that Mother Nature can provide. Sticks, bark, dry grasses, leaves, pinecones, pebbles, feathers, shells, or seaweed. One important caveat: do not EVER disturb any of nature’s materials that are still living, especially flowers, ferns, mosses and lichen. Disturbing or destroying anything living in nature will arouse a fairy’s ire. You may wake up the next morning with a tangle of Elf-locks in your hair or discovered you’ve lost your favorite trowel in the garden.

As to the actual construction of the house, there are two trains of thought on the matter. Some “purists” use only blades of dry grass or vines to bind the things together, simply interweave the materials or carefully stack them against one another. The “realists” recognize that a delicately constructed fairy house probably won’t survive as long as one held together with a bit of hot glue or durable adhesive. Sometimes you need do the actual construction in a different location from the placement you’ve chosen and you must transport it. A fairy complaint has never been documented on this issue.

When the building is complete it should blend into the environment surrounding it, be hidden, and almost invisible. It can be decorated, furnished and landscaped using found materials, such as seed pods, acorns, dried flowers, pebbles, small shells. Think chandeliers, tables, chairs, beds, tubs, dishes and swimming pools. Let your imagination will run wild.

When it comes to imagination, children have the most prolific ones. Walking through woods or fields with a child we have the opportunity to teach them about the natural world and the creatures in it. They develop the curiosity to investigate what they have seen or collected, an education without a classroom. Building fairy houses stimulates a child’s creativity and teaches respect for the environment, a plus for us all!

Check out some Tracy Kane books or how to build fairy houses on the internet. There are lots of great ideas and photos available.
This month’s photos come from Rensselaer County Master Gardener MaryLee Kopache. She writes, “Parsnip, sage, rosemary and wine... When planting your herb garden and berry patch this spring, why not dream about some most flavorful outcomes?

Try Parsnip Apple Rosemary Cake (bride and groom optional). Feeling lucky? Corned Beef With Herbs brings out the gold. Dark Chocolate Blackberry Cake brings on the smiles. If you have patience, Black Currant Wine in primary fermentation is a fine start and Lattice Top Fruit Pie takes the cake!”
Once we solve a problem we’d like it to stay solved, but that isn’t always the case in pest management. Insects hide and move, fungi sleep then creep and some weed seeds can stay dormant for decades before bursting forth. While it is often left for farmers and gardeners to tackle pests, some problems are so persistent and insidious that the government steps in. Such is the case with the Asian long-horned beetle, a native of China, Korean and Japan which surfaced in Brooklyn in 1996 and has been bugging us ever since.

A voracious eater of wood, Asian long-horned beetle (ALB) destroys a wide variety of tree species, including maple, elm, willow, poplar and horsechestnut, to name just a few. The larvae spend one to two years devouring a tree’s interior, causing extensive and lethal damage. If left unchecked, ALB might destroy 30% of America’s street trees, cause $700 billion in losses and wreck untold havoc on natural areas. Discovered at many domestic ports of entry and then quashed, this beetle has so far escaped and spread into trees in five states and Ontario. In Jersey City, Chicago and Boston efforts have successfully eliminated it, but other locales are still in the battle.

After a fourteen-year effort, ALB was declared banished in Staten Island and Manhattan in 2013. A small population was eliminated in Islip by 2011, but in nearby Central Long Island, new populations of ALB surfaced in 2014, when 500 infested trees were discovered, and the war there continues. The numbers are sobering: in the greater New York City area, over 7,000 trees have died from ALB, over 16,000 have been removed to stop it, and about $40 million is spent annually. Two geographic areas of concern remain, Central Long Island and Brooklyn/Queens. Officials remain vigilant, since they can’t check literally every tree, and some property owners are uncooperative with inspection efforts. Although ALB can fly about a ¼ mile, most adults are lazy and seek to re-infest their home trees. Much of the spread of ALB is therefore human-driven, and despite vigorous educational efforts, the uninformed still move infested wood.

A homeowner spotted ALB in Worcester, Massachusetts in August 2008, and that area hasn’t been the same since. According to MassAudubon, 27,000 trees were removed initially in the city and surrounding area, and this number eventually climbed to over 34,000. A quarantine zone of 110 square miles was established, and 3 million trees surveyed for signs of infestation. By early 2013, it looked like the end was in sight, since new findings were low the previous year. Unfortunately, 62 infested trees were detected in early 2016, specimens likely missed in earlier surveys. In total, state and federal governments have spent over $140 million, and more than 30,000 new trees were planted.

Bottom line? As of today, ALB hasn’t been found in the Hudson Valley, knock on wood. Kudos to everyone who has worked to stop it. And pray that funds for fighting ALB aren’t on the chopping block in Washington.
Lately, I’ve had water on my brain.

Blame the media coverage of the western drought; the NY Times cover photo showing Mexico City buildings slumping as the ground water is being sucked out from under them; the ongoing rattle on global warming, etc. For me, it’s a convergence of random facts underscoring the obvious… water is a limited resource, something that deserves more attention than my cursing at my water bill. So, what am I going to do?

As a gardener, I have some options. No, I’m not going to trust our trees, shrubs, annuals, perennials… all the greenery we’ve wrapped around our house over the past 20 years… to the whims of Mother Nature. I know she’s dealing with long term, big picture issues. My little bit of paradise isn’t on her radar or very high on her to-do list. So, for the Summer of ’17, if it’s “green to be, it’s up to me”.

Actually, I do have a head start. A few years back I changed my watering habits. As a novice, I let the sprinklers flow, shooting arcs of moisture into the air; simulated rain. Then I learned that this top down approach had some serious drawbacks, like evaporation... wetting the leaves didn’t guarantee that the roots got a drink, and how much water did they really need? According to the conventional wisdom, a lawn needs an inch of water per week. That sounded good, so I put in some recycled rain gauges (old tuna fish cans) to keep track. I never really trusted the results, but... it was a start.

But no solution to date. I have upgraded the sprinklers, added timers, found ways to lower the “hang time” for the droplets and moved the effort to the morning. That way evaporation can hopefully happen. But it still means the lugging and tugging of 50 foot hoses, and they seem to gain weight as you reel them in.

However, in my vegetable garden, I thought I could find some success. A friend had given me a rain barrel which I placed under a downspout. Since it was close to my square foot veggie garden, I planned to use the free rain water to quench the thirst of my tomatoes, salad greens, beans and other veggies. There was a certain “back to the land hippie feel” to filling my watering can from the barrel and lugging it to the garden, but I found that my commitment to this daily task was on a par with Mother Nature..... unreliable. Something had to change! Could technology be the solution, I wondered? Next month: high tech invades my veggies!
What to do in April?

* Maintain, maintain. Now is the time to make certain your lawnmower is ready for the season, and that the tools you’ll be using are in the right place, cleaned, oiled, sharpened and ready to go. And don’t forget your seed-starting containers. The first step before planting is to clean them by washing them down with a water/bleach solution. The formula? Nine parts water and one part bleach.

* Sow cool weather corps — lettuce, spinach, arugla, onions — in the garden as soon as the soil is able to be worked.

* It’s never too early to start weeding.

* Properly prune winter-damaged tree branches. Prune dead wood from woody perennials, like lavender and sage, too. And plan on pruning flowering shrubs, after they have finished blooming.

* Celebrate Arbor Day – Tuesday, April 25 – by planting a tree.

* Plant some pansies for early color.

* Awaken your compost pile with a good turning. As soon as soil has thawed and is dry enough to work, dig in finished compost to your garden beds. Doing so this month will give it time to work its magic before planting begins.

* Organize your recycling. Check with your community or waste service to get detailed information about what you can recycle.

* Bring a soil sample in to your local office of Cornell Cooperative Extension for a pH test. This low-cost test (just a few dollars in most counties) will tell you if you need to add lime or sulfur to adjust the soil pH for maximum plant health. Don’t ever add lime or sulfur without a test!

* Remove mulches from perennials, strawberries, and roses before they start to grow. Take care when removing mulches to avoid injury to plants.

* Divide and conquer. Perennials will begin popping up all over the garden this month. Some types like to grow but don’t spread well, while others gradually decline. Dividing perennials allows you to increase their numbers, acts to rejuvenate many species and reins them in before they get too big and unmanageable. Gently lift up the plant, dividing the roots to leave three to five growing point or eyes on each piece. For Siberian irises and daylilies you may need to use a knife or hatchet to divide clumps. Most perennials can be re-planted a foot or more apart, but this will vary for different species. Consult your favorite gardening book for specific instructions. An important caveat is that when you divide these crowded plants they may not appear to grow or flower as well this year but next year they will. The sooner you can get them divided and replanted this month the better chance they will have.

Editor’s Note: These photos of a mother mallard and her babies were taken by Master Gardener Pat Thorne and honor all of the “April Showers” we’ve had lately.

Text by Rensselaer County Master Gardeners Sue Hayes and Jude Dinan
I wanted to write about gibberellin in April, since much plant growth begins in April and gibberellin is often involved in breaking dormancy. What is gibberellin? Gibberellin is a hormone and a hormone is a chemical produced, usually in small quantities, in one part of an organism that affects other areas of that organism. Gibberellin first called attention to itself when it was noted that it causes stem elongation. Even today, most biology students would cite stem elongation as gibberellin's main role. However, other responses to gibberellin have been discovered. Breaking seed dormancy is one!

Seeds contain a plant embryo and food intended for that embryo. The "food" is mostly carbohydrate. Common forms of carbohydrates are the insoluble macromolecule (often starch) and the smaller, soluble sugar. As an example, if you examine a cow corn kernel (seed), it is plump. If you examine a sweet corn seed, it is shriveled. The sweet corn seed contains sugar which draws water and as the seed dries out, it shrinks with the loss of water.

Back to gibberellin! Gibberellin activates an enzyme that converts the insoluble starch into soluble sugar. The sugar dissolves in water and is transported to the cells of the seed and thus metabolic reactions begin. The cells create more of the molecules of life and then divide, producing more cells or "germinating". Many seeds require prolonged periods of cold temperatures before germination. Can we circumvent the cold period and cause seeds to germinate when we want them to? Absolutely! Gibberellin is used routinely to treat barley seeds so that uniform germination ensures a good supply of malt (for brewing beer and ale).

Another use of gibberellin is stimulating fruit development without fertilization. If fruit develops even though fertilization did not take place, the fruit is usually seedless. Some of the fruit that may form as a result of gibberellin application include cucumbers and eggplants. The most common use of gibberellin-induced (seedless) fruit formation, however, results in the production of Thompson seedless grapes. These grapes are larger and form looser clusters.

Personally I am not in favor of enhancing what Mother Nature produces for us, but I cannot help but marvel that a simple hormone, produced by plants themselves is forcing seeds to sprout and buds to germinate after resting through the long winter.
“Gardening is a kind of disease. It infects you, you cannot escape it. When you go visiting, your eyes rove about the garden; you interrupt the serious cocktail drinking because of an irresistible impulse to get up and pull a weed.”

Lewis Gannett
(American writer, 1891-1966)

Gardening Questions?
Call The Master Gardeners!

In Albany County: Call 765-3514 weekdays from 9:00 AM to 3:00 PM and ask to speak to a Master Gardener. You can also email your questions by visiting their website at [www.ccealbany.com](http://www.ccealbany.com)

In Schenectady County: Call 372-1622 Monday and Thursdays from 9:00 AM to Noon, follow the prompt to speak to a Master Gardener and press #1. You can also email your questions by visiting their website at [http://counties.cce.cornell.edu/schenectady/](http://counties.cce.cornell.edu/schenectady/)

In Rensselaer County: Call 272-4210 from 9:00 AM to Noon on Tuesdays and Thursdays and ask to speak to a Master Gardener. You can also email your questions to [Dhc3@cornell.edu](mailto:Dhc3@cornell.edu)

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Rensselaer County’s Ash Trees Are Under Threat

Green Menace: Emerald Ash Borer

Wednesday, April 26, at 7:00 PM at
Cornell Cooperative Extension, 61 State Street, Troy NY

Cornell Cooperative Extension of Rensselaer County will offer the class “Green Menace: Emerald Ash Borer Comes To Rensselaer County” on Wednesday, April 26 at 7:00 PM at the Extension Office, 61 State Street, in Troy. Emerald Ash Borer has devastated ash trees in several states and is now increasing its spread in Rensselaer County. The arrival of this pest is drastically changing woodlands, parks, city streets and home landscapes. Learn how this pest operates, how to identify vulnerable ash trees and what can be done to save your trees. Presenters include David Chinery, horticulture educator for Cornell Cooperative Extension of Rensselaer County, and Jack Magai and Ben Larson, both Certified Arborists with the International Society of Arboriculture.

This program is “free” to the public but due to limited seating registration is appreciated. To register, contact Cornell Cooperative Extension at (518) 272-4210

Cornell University Cooperative Extension of Rensselaer County

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