May 2024

The Soil Your Undies Challenge!

Hello Gentle Readers! You may be wondering what this rather provocative photo is doing on the "Root Concerns" newsletter. Luckily, I have a good explanation. I like simple demonstrations that show science in action. Think the canary in the coalmine (a tragically lethal test for carbon monoxide) or the mustard flush (which tickles jumping worms, bringing them to the surface). In a similar vein, and with a bit of humor, the Natural Resources Conservation Service, part of the US Department of

Agriculture, came up with the "Soil Your Undies Challenge" back in 2018. They persuaded over 100 Oregon farmers, ranchers and other agricultural enthusiasts to "plant" cotton underwear in their cropland as a demonstration of soil health. Visit their website (https://www.nrcs.usda.gov/conservation-basics/conservation-by-state/oregon/soil-your-undies-challenge) and you'll see lots of before photos of new tidy whities, and after shots of dirty drawers in tatters. This may be the only forum where it is acceptable to air your dirty laundry in public.

So where's the science? Healthy soil contains billions of microbes, including bacteria, fungi, protozoa, beneficial nematodes, and micro-arthropods. It is estimated that one teaspoon of healthy soil contains more microbes than all the living humans on earth. Healthy soil will also host lots of larger creatures, such as arthropods, crustaceans and insects. All these critters have to eat, and they will happily devour the cotton in a nice pair of boxers or briefs. At the end of two months, healthy soil will yield only an elastic wasteband, whereas a less lively soil food web with less microbial activity will show only minimal decomposition. For example, the undies in the photo below were planted at an Oregon community college farm. Compost was added on top of the pair at left, which stimulated decomposition to happen faster than with the pair at the right.

Yes, you say, I want to bury my bloomers in the name of understanding soil health! Here's what you do. Dig out a shallow spot, about 3 inches deep, in a garden area you are interested in testing. Bury your cotton undies horizontally in this spot and mark it with a plant stake or some other memory aid so that you can easily find it again. Wait at least 60 days, then unearth your prize. Send a photo to the Natural Resources Conservation Service at orinfo@nrcs.usda.gov and they will post your results on their Soil Your Undies Challenge Tracker where you can see results from across the country. Remember, the pair with the least threads remaining wins!

If your skivvies show that your soil health is suffering, there is much you can do. Add compost, grow a cover crop, eliminate pesticide use, avoid soil disturbance, and increase plant diversity, just to name a few.

Story by David Chinery

Like The Summer Sun

What's your favorite color? What seems like a simple inquiry can be a highly personal question, especially for gardeners. We spend big money at garden centers for season-long color, become disappointed when flowers refuse to bloom and get fussy when the geranium turns out to be the wrong shade of salmon. I like to think I'm less choosy than most, and you might label me plain gauche when I tell you that my favorite color in the garden is orange. Color psycologists as well as the National Association of Realtors cite orange as the least favorite color, but it's my garden and I'm not wavering. So, bring on *Tithonia rotundifolia*!

I consider the powerful orange blossoms of Mexican sunflower (*Tithonia rotundifolia*) one of the highlights of summer. It's an annual, and I don't always have luck with the seeds, but a friend gets me a few from a Vermont nursery which sells the seedlings, plus I know of a second nursery source closer by. The plants grow quickly, preferring full sun and warm temperatures. I'll admit they aren't terribly good-looking – rather tall and gangly, better for the back of the border than right up front. They might need staking, can break during summer storms, and benefit from deadheading. If you aren't sold yet, I can't blame you. It's really all about the daisy-shaped flowers, which are pollinator magnets, and favorites of monarch butterflies as well. What I grow is the tall variety called 'Torch,' which was named an All-America Selection way back in 1951, but there are shorter types, including 'Fiesta del Sol' and 'Goldfinger.' Another variation is 'Yellow Torch,' described as producing apricot yellow-orange flowers. I've tried these alternatives, but the orange flowers on a six-foot 'Torch,' contrasting with a blue August sky, are simply the best.

I didn't know *Tithonia* had a dark side, so I was a bit perplexed when a web search pulled up a video entitled "Never Plant This Plant!" It turns out that my plant's near relative, also called Mexican sunflower but with the botanical name *Tithonia diversifolia*, is a terrible invasive in warmer climates, such as Hawaii. In South Africa, both *T. rotundifolia* and *T. diversifolia* are causing problems, while Florida says its okay to plant the former, but not the latter. Let's hope that our winters remain cold enough to keep *T. rotundifolia* firmly in the annual, non-invasive category. I would hate to have to give it up, but I would hate even more finding it lurking in the weeds.
Story and photos by David Chinery

Iron-Clad Beauty

Some plants are like a good old Timex – they can take a licking and keep on ticking. A classic example of this is Rhododendron 'P.J.M.' Reliably blooming each late April, it has become the poster plant for garden-variety durability. In my presentation on "Tough Plants For Tough Places," 'P.J.M.' is one of the first plants I talk about, and those who know it certainly second its virtues.

Being solid as a rock is not a universal trait among rhododendrons. Most of the showiest species and hybrids would rather grow someplace safe rather than out on the horticultural edge. Many like a sheltered place out of the wind, a soil rich in organic matter, and ample moisture. A soil low in pH with ample amounts of iron may also be a requirement, without which said rhodo may turn yellowish and die. Cold tolerance is also rare. If plants could head south for the winter, we would find many rhodos trucking down I-95 right after Thanksgiving. With all this in mind, it must not have seemed a sure thing to breed rhododendrons for New England, but that didn't stop some farsighted nurserymen by the name of Mezitt.

The story begins when father Peter J. started the Weston Nursery in Hopkinton, MA, in 1923. Son Edmund later received a rare rhododendron collected by missionaries working in the Altai Mountain region of China. The plant proved notable for holding its very dark green leaves through the coldest winter. Later named Rhododendron dauricum variety sempervirens, it provided the pollen for a cross to an American native, Rhododendron minus. Found in the southern Appalachians at both low and high elevations, R. minus had attractive flowers as well as the ability to grow in difficult, rocky soils. The initial marriage of the American bride and Chinese groom occurred in 1939, and further crosses into the 1940's yielded a next generation of considerable interest – attractively flowering, cold hardy plants. The resulting Rhododendron 'P.J.M.' is not a single cultivar but a group of hybrids, so therefore we may see some variation in flower color, plant form and other characteristics. Note that 'P.J.M.,' which today is perhaps the most widely planted rhododendron in North America, was name for the company founder, Peter J. Mezitt.

Here are 'P.J.M.'s details. It's a compact and rounded shrub, with small dark green leaves which turn purple in winter and remain on the plant. It produces clusters of four to nine flowers of vivid lavender in early spring. It is site adaptable, so much so that it can be found in home landscapes, shopping center parking lots, urban streetscapes and rural outposts from New England through the upper Midwest. This ability to thrive in inhospitable spots and its widespread use makes some think 'P.J.M.' is as common as dandelions, but I see it as a remarkable achievement in plant breeding.

Kissing cousin 'P.J.M. White Form' is understandably white, 'P.J.M. Princess Susan' is very compact and 'P.J.M. Victor' grows slowly and flowers extra early. They're all tough stuff.
Story and photos by David Chinery

What to do in MAY

Sharpen lawnmower blades for greater fuel efficiency and more effective cutting power. Set lawnmower blades to a 3-inch height to discourage weeds and conserve water.

Clean and sharpen tool blades. Oil wood handles with linseed oil. Rehome tools you no longer need or use.

Organize and disinfect plant containers with a solution of 1 part bleach to 9 parts water.

Create a plant shopping list for your containers.

Decorate with hanging baskets.

Create an edible container garden with spinach, Swiss Chard, kale, lettuce, tomatoes, or peppers. Consider using small, individual pots or combining plants in a raised bed on a deck or terrace. Mix and match!

Move and divide perennials and deadhead Spring bulbs.

Prune early blooming shrubs after the flowers have died.

Plant summer flowering bulbs, such as dahlia, gladiola, canna, and tuberous begonia. Purchase and transplant annuals to round out beds for continuous seasonal color.

Plant potatoes, beets, salad greens, radishes, carrots, and tomatoes.

Stake plants that may need support as they grow, such as peonies, and tomatoes before they get too large to stake effectively.

Add fertilizer to lawns in late May.

Get outdoors and enjoy the warmer weather and longer hours of sunlight, remembering to protect yourself from ticks and other biting insects! Wear protective clothing and always check yourself for ticks after outdoor activities.
Compiled by Rensselaer County Master Gardeners

Tasty, but a Nuisance

It doesn't take a weed scientist to spot a quickly multiplying nuisance that is currently in flower: garlic mustard, or *Alliaria petiolata*. This exotic invasive weed is quickly overtaking roadsides, margins of fields, and even home gardens, especially in edge-of-the-woods situations. Uncle Sam needs you to enroll in the garlic mustard war!

Garlic mustard is fairly easy to recognize. An herbaceous plant, it has a very upright habit, reaching a maximum height of 3 ½ feet. The leaves are light green, heart-shaped to rounded, and feature coarse lobes on the edges. The small white flowers have four petals and appear in clusters. It is a biennial, appearing as a rosette of innocent-looking leaves in year one. In the spring of year two, garlic mustard quickly shoots up, flowers, and is dead by the end of June, after which it disperses a plentitude of seeds to carry on further generations.

Like a lot of other good intentions gone bad, garlic mustard was brought to the USA from Europe, ostensibly for culinary or herbal use, in the 1860's. It now spreads coast to coast. Although this pest has a garlic-y aroma when crushed, and is in the mustard family, I don't know of anyone cooking fast enough to stop it.

Why worry about it? Like other exotic invasives, it displaces native plants, and changes the look of our natural areas. Natives such as trillium, spring beauty, wild ginger and bloodroot are crowded out when garlic mustard shows up. Wild mammal, bird and insect life which depend on native plants are also reduced. As we lose our native flora, we lose something of what makes an East Coast spring special. While some people invite the idea of a "global economy," one global collection of only the toughest plants in the world spreading everywhere is an ecological tragedy.

There is little landscape managers or homeowners can do to stop the spread of garlic mustard in wild places, and many gardeners are having a tough time keeping it out of their own cultivated domains. The best solution is also the most labor-intensive: pulling by hand. In year one or early in year two it can be yanked from the ground and destroyed before seed formation in May and June. Cutting it low to the ground is also an option, but plants cut high can re-generate flowers, so go as low as you can. A broad-spectrum herbicide can be sprayed on it, but this is difficult if desirable plants are nearby. Whatever you do, don't let it go to seed! Seeds are viable for at least 5 years, so you must commit to at least that long to eradicate it from your area. For gardeners, this is called "job security."

Text and photos by David Chinery

Houseplant of the Month: Leopard Lily

Botanical name: *Ledebouria socialis*

Toxic to animals

A South African native, this beautiful plant with succulent speckled leaves, has bulbs which form above the ground. These bulbs allow the plant to survive droughts.

The small green-striped star-shaped flowers hang down from long stems and have purple stamens.

The plant stands 10” tall and requires bright light and temperatures in the range of 60-85 degrees, as well as a pot with good drainage.

To propagate the bulbs you separate them after flowering in the spring and plant them with half of the bulb above the ground.

Leopard Lily is a beautiful house plant year round that requires little care and the easy propagation of the bulbs makes it easy to share them with your friends.

Enjoy!

Text and photos by Rensselaer County Master Gardener Barbara Nuffer

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A New Pest Out Of The Box:

Box Tree Moth

Gardeners have come to know and grow boxwood for its attractive foliage, easy care and deer resistance. Unfortunately, a new pest which likes to destroy boxwoods has entered New York State, and in 2024 we should be looking carefully for its arrival in the Capital District. The Box Tree Moth (BTM) is an exotic insect pest native to North China and Korea which poses a threat to boxwood plantings. Box Tree Moth's presence in Europe was initially detected in 2006, spreading throughout the continent over the subsequent 15 years primarily from nursery stock shipments. BTM first appeared in New York State in 2021, likely carried on a storm from a recent infestation just across the border in Ontario, Canada. Currently a federal quarantine prevents export of boxwood nursery stock from counties with known infestations.

Box Tree Moth is most easily recognized by the webbing the caterpillars create as they mature, which is visible by spreading the branches and looking into the interior of the shrub. Caterpillars can be detected by heavy, characteristic feeding patterns, with leaves appearing "peeled" or only the midrib remaining. Green-black balls of frass (droppings) are also indicative of an infestation. Severely-infested shrubs take on a brown or scorched look.

Much more information on BTM is here: https://cals.cornell.edu/new-york-state-integrated-pest-management/outreach-education/fact-sheets/box-tree-moth

Bottom line: keep a watchful eye on your boxwood this season!

The Final Dig

"Hoeing in the garden on a bright, soft May day, when you are not obligated to, is nearly equal to the delight of going trouting."

Charles Dudley Warner (1829 - 1900, American essayist and novelist)

"Root Concerns: Notes From The Underground" is a publication of Cornell Cooperative Extension of Rensselaer County. For more information, contact David Chinery at 518.272.4210 or dhc3@cornell.edu.

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