

What's Coming Up:

Janet Macunovich answers your growing concerns
Issue 5, September 6, 2008

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Doublefile viburnum (*V. plicatum*) is a beauty in bloom, fruit (here) and fall color but take a cue from these brown leaf tips to look at its overall health and hardiness. Photo ©2008 Steven Nikkila

Prospects dim when shrub's leaves darken at midsummer

Eileen asks, "I have **viburnum with darkening, shriveling leaves**... Any clues?"

Lots of things can affect a viburnum's foliage, Eileen. **Aphid feeding** in spring can leave it distorted, small and dark. **Leaf spot fungi** infections begin as discrete purplish-brown spots but may coalesce to cover much of a leaf. **Verticillium wilt*** fungi in the water conducting system may cause new growth to wilt and die. **Viburnum leaf beetle****, a pest new to North America but evolved to on most *Viburnums*, has moved west and south from Ontario and New England States at a fairly rapid rate. I don't call this beetle's brand of chewing damage "darkening and shriveling" but at a distance the holey, browned-out foliage may look dark.

* For more about verticillium wilt: <http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/advice-tips-resources/pests-and-problems/diseases/cankers/verticillium-wilt.aspx>

** Viburnum leaf beetle: <http://whatcom.wsu.edu/ag/homehort/pest/VLB.htm>

I'll let you look into those problems on your own if they fit your case.** Today, I'll focus on what most often fits this description. It can afflict many shrubs, not just *Viburnum*.

**Viburnum problems listed: http://www.clemson.edu/extension/hgic/pests/plant_pests/shrubs/hgic2057.html



I suspect that **your viburnum has been damaged by cold.**

You don't say it's a doublefile (*V. plicatum*, shown here) but that species is so often affected in this way it makes a fitting poster child.



In fall, a woody plant becomes hardy to cold from its tips down. The last part of a tree or shrub to become able to withstand a freeze is the trunk at ground level. If air or soil become frigid before a trunk hardens, patches of cambium and even sapwood can be killed. Similar damage can occur on winter nights that follow warm, sunny days. That's when wide, sun-facing facets of the trunk heat up and cells there fill with water only to be flash-frozen at sunset as the mercury plummets.

One of these doublefile viburnums is healthy. The other is struggling since cold damage cut its ability to transport water up to leaves and nutrients down to roots. The gardener's cue to look more closely at the troubled shrub

(immediately above) is its brown cast, the cumulative effect of brown leaf tips and edges (below, right). Although discolored foliage can signify many things, from over fertilization to fungal infection, cold damage is a cause that is not only common but commonly overlooked. Photos ©2008 Steven Nikkila

Cold injury to wood may not be visible right away but eventually causes splits in the bark, puckers, open wounds and discoloration.

A plant with such damage may perform adequately in spring. Its buds open to produce flowers, leaves and new branches. But as summer heat builds, the evaporation rate from leaves



increases and water demand in the canopy rises. The damaged sapwood struggles to keep up. At the same time, drought becomes more common. Roots, weakened because the frost-damaged cambium hasn't been able to feed them enough starch, die back or can't extend themselves to draw water from a wider area. The most tender parts of leaves and far tips dry and die.

The leaves of the plant may wilt, fail to reach full size, show fall color early, become scorched on the tips, die on the branch or drop off early. Twigs may die.



The branch itself was healthy in spring but couldn't remain so without a healthy trunk.
Photo ©2008 Steven Nikkila

Look low on your shrub for signs of cold damage. If you don't see obvious wounds or aren't sure what healthy bark and wood look like on your species, find a better-growing specimen of the same type and compare what you see there.

If cold injury is the problem, there isn't much you can do but **prune out the damage** and **improve growing conditions** or winter protection to reduce the risk of recurrence.

About those growing conditions: Adequate, steady water in late summer and early fall - *now* -- is critical. Even a plant whose species is hardy to your zone, can be hardier when well watered into fall, and less hardy when drought stressed at this time.

Borers# can cause symptoms much like cold damage. Borers are insects that attack the main canes, often entering or exiting near ground level or at low crotches. When they do enough damage in a stem the foliage it supports will act as it does on a cold-injured cane. Different borers attack different plants -- *Viburnum* has its own borer## -- but

most borers share this trait: They attack weak and older canes. If you find borer exit- or entrance holes on your shrub's main canes, don't simply take action against those insects. Keep looking for the underlying stresses and environmental incompatibilities that predisposed the plant to borer via weak bark and deficiencies of internally-produced, insect-detering compounds.

<http://www.ca.uky.edu/agc/pubs/ent/ent43/ent43.pdf>

<http://www.invasive.org/browse/subthumb.cfm?sub=14204&start=1>

Disappointed gardener sees Brussels but no sprouts

Priscilla says, "I have **three Brussels sprout plants**. They're tall and sturdy, and so far my dog has left them alone! However, **no 'Brussels!'** (Or 'sprouts'?) Nary a one! How come?

All is not lost, Priscilla. **Brussels sprout season is still coming**. Besides, if your plants did produce sprouts during the heat of summer, they would probably be bitter.

Genetically, this cabbage relative is a biennial -- it spends its first year growing leaves and storing energy, then flowers the second year and dies.

Practically for many of us, it's an annual (it won't survive winter in zone 5) and **it's the flower buds we eat**, harvesting them as they plump up at the end of year one. **The sprouts form** as days shorten and nights cool **at the end of the plant's first year**.

So keep checking for buds. A sprout will develop at the base of each leaf, where the leaf stalk joins the main stem. They form first at the bases of the lowest leaves and development progresses upward. You might **speed up the process now by pinching** the plant -- clip off the top few inches of growth. That can nudge a plant out of leaf-forming stage and into sprout formation.

Snap off individual sprouts as they reach the size you like, **or harvest the whole plant** when the average sprout size is what you want. A well grown Brussels sprout plant may yield two to three pounds of miniature cabbages -- perhaps 100 heads. They develop their best flavor when days are sunny but there are light frosts at night, and before the plant's leaves have begun to yellow.

Hard to love a Brussels sprout... until you take a closer look.

Brussels sprout goodness

They're a great source of both **vitamin C** and **fiber**.

They **lower cholesterol** even better than their more popular relative, broccoli. They do it by binding to cholesterol-rich bile and ushering it out of the body.

Studies are indicating it's a first-tier **cancer-prevention food**.

They yield when it's cool, when heat lovers such as tomatoes, beans, squash or corn are duds. Brussels sprout and all its kin -- the cabbage family -- love cool weather. Those grown for foliage can be harvested as baby greens before summer's heat and again in fall. Those we raise for the heads produce well only after experiencing a significant change in day length and serious cold at summer's end.

Cabbages: Variety in variety.

The plant species *Brassica oleracea* has been cultivated over millennia. With so many human generations and cultures watching for desirable natural variants, it's not surprising this one species now includes at least seven sub-groups grown as food crops: **Cabbage, kale, cauliflower, broccoli, kohlrabi, collard and Brussels sprout.** (An eighth variant, ornamental kale, may grace our gardens and serve as a garnish but one bite proves it wasn't chosen for taste.)

In each cabbage sub-group are varieties with distinct differences.

Brussels sprout, in the sub-group *Brassica oleracea gemmifera*, has given us varieties that are more bitter, more mild, quicker- and slower to develop. I once grew 'Jade Cross' but my children wouldn't touch its sprouts no matter how I doctored them in cooking*. The next year I switched to a type advertised as milder in flavor but never got to taste the difference myself because my young son snapped the sprouts and ate them as they formed. (For the record: More vegetable tolerant now as he nears 30, he still denies ever nipping my sprouts.)

Midwesterners should grow early-bearing sprouts such as 'Oliver' (80-100 days from seed to harvest). Leave five- and six- month types such as 'Content' and 'Genius' to growers in regions with very mild winters -- Brits who can step

out and gather a bowl of sprouts almost any day between October and March or northern Californians** whose big harvest comes in January.

* <http://www.brussels-sprouts.com/recipes.htm>

** <http://www.brussels-sprouts.com/BSINFO.htm>

When sprouts go bad

If a Brussels sprout fails to yield or its sprouts aren't palatable, consider these points before you give up on the species:

Undersized sprouts that aren't firm may be the result of drought or a boron deficiency. Boron is sometimes lacking in very sandy, low-organic soils or very dry areas.*

Sickly plants can be too unhealthy to bear well. If your plants were plagued by insects or micro-organisms (diseases) that recognize Brussels sprout as food, read up on and prepare to head those pests off at the pass next year.**

Bitter fruit? Search a bit farther when you're ordering seed or buying plants. Many newer types, including 'Oliver' and 'Prince Marvel' list "milder taste" among their good qualities.

* Copy and paste this URL to your browser bar to learn more:

<http://www.extension.umn.edu/distribution/cropsystems/DC0723.html>

**<http://www.ipm.ucdavis.edu/PMG/selectnewpest.ole-crops.html>

That's a stumper: Predicting which weed tree will plague us next

Some problems have no solution. All we can do is to share the pain and commiserate. For instance:

If only we could know **which tree's seedfall is going to create the worst weed problem** in a given year, so we could just cover vulnerable beds with floating row cover* for a few days or weeks!

* What's floating row cover? A season-extender that can also be a barrier between falling seeds and a bed. More about this material at: <http://www.plant-materials.nrcs.usda.gov/pubs/mipmcar9780.pdf>

Every year, trees do their best to continue their species. Some years some seed crops are greater than others. Sometimes Nature obliges with conditions that are perfect for that seed to sprout; sometimes she doesn't. **Cottonwood** seeds love mudflats but die in just days if they fall where it's dry. **Maple** seeds live only weeks unless water keeps them moist for at least a few days running.

We can't predict these situations. So David S. tells me of an overabundance of **tulip tree** (*Liriodendron tulipifera*) seedlings in his gardens this year. I raged over cottonwoods, which don't often sprout in abundance even though they cover their areas with seed fluff every year. Last year, **elms** tried to take over in my garden. Next year... well, at least we have winter to rest up for it!

The 45mph garden

You can put a gardener behind the wheel but you can't take the flowers out of his eyes. Look at what's catching driver's eyes and raising questions this week.

It's past full bloom but ivory seed clusters are still making **scholar tree** (*Sophora japonica*, center plant in the roadside group at right) turn heads. This **sturdy, low-care** tree with puffy **white blooms in August** is too rarely planted. Why? Because it's *not* much of a head-turner in May when we're snapping up plants at the garden center! Photo ©2008 Steven Nikkila



This week in Janet's garden

Grow with me! this week I will:

Thank the heavens for rain, but keep feeling the soil and doing my part -- **water to escort my trees and shrubs into winter**. There's more on the relationship between water and winter hardiness, see page 3 of this issue.

That's right, Gloria, I **water now but stop fertilizing** everything except the annuals I planted for a fall show. Another spur to plants to begin hardening off is a decline in nitrogen, as would happen naturally as nutrients from last year's leaf fall are used up.

Replace full-spectrum bulbs for my indoor garden light fixtures. I **change these bulbs if they're more than a year old**, since I leave them on almost around the clock all winter. They may still glow and look good to me but their lumen output has probably dropped below what's best for plants.

The light in our homes is not great for most plants. Light levels we find adequate may provide plants less than one-tenth the energy they had while outdoors. Short winter days that abbreviate through-the-window light make this situation worse.

I'm very glad that so **many full spectrum fluorescent tubes are available** now, including some that can fit into conventional bulbs' sockets.

See if I can line up the help I need for house repairs to be done in late fall. It's so much easier to **work on outdoor walls and windows in autumn** when we can clear the way by cutting perennials to the ground and tying herbaceous shrub branches without fretting that this tactic will ruin the foliage.

Also, the thick mulch I put down to cushion the soil against all the extra foot traffic can stay in place all winter if the work goes on beyond schedule. At other times I'm more nervous about continuations since that kind of blanketing can smother plants and overheat woody trunks if left too long during the growing season.

Wrap-up with Grins and Grow-ans that turn our green thumbs up or down

Grins: To brainstorming **good uses for landscape fabric** outside the garden. It should certainly not be used under mulch and is less effective as a weed barrier than newspaper when all aspects are considered. Yet sometimes at year-end I do have remnants on hand, as this year when we used it to line a rock-filled drain collection point. Add a sip of wine and good company and anything from Halloween costumes to grocery tote bags and doggie booties may result.

Grow-ans: To **spraying brown plants with systemic herbicide**, or spraying and then immediately cutting unwanted plants. Systemic plant killers such as glyphosate (the active ingredient in Roundup and other products) work by fooling a plant into incorporating the compound into starches sent to the roots. Roots are unable to use those starches, and starve and the plant dies. Apply the chemical to a non-functioning leaf or apply them and then cut off the greenery and that sneaky system breaks down -- without a leaf, no toxins are packaged and sent to the roots.

Who's Janet?

A professional gardener and educator since 1984, Janet Macunovich designs, plants and tends gardens through her business, Perennial Favorites. She teaches and writes about gardening at schools, conferences, in her books, this weekly column, the monthly Michigan Gardener and other publications. Email questions to JMaxGarden@aol.com.

Places to catch Janet in-person:

Saturday, September 13, 8:00 a.m. - noon, "Garden by Janet - Bring Your Gloves and Tools!" At the Detroit Zoo, Woodward Avenue at I-696. Your chance to volunteer at the zoo in exchange for Janet's hands-on instruction in fall perennial garden maintenance. For instructions, send an email to mstgarden@yahoo.com with subject line "I'll volunteer at the Zoo with Janet."

Thursday, September 18, 7 p.m., "The Art of Fall Garden Clean-up." An illustrated lecture at the main library, Waterford Township, Michigan. Free. To attend, call 248-618-7694 to reserve a seat.

Saturday, September 20, 9:00 - 11:00 a.m., "Garden by Janet - Bring your gloves and tools!" At a Macomb Township garden we're evaluating and continuing a years-long program of improving the lot of various trees on the property. In this one spot are great examples of what may go wrong with new trees plus all that can go right when the gardener recognizes and acts to correct problems. Although this session is geared to talking, looking and planning, it's impossible to rule out some digging and trimming -- so leave those dress whites at home! Free. Email or call Janet (JMaxGarden@aol.com or 248-681-7850) for details and to reserve a spot in this limited-space workshop.

Saturday, September 27, 9:00 a.m. - 1:00 p.m., "Holiday Decorations from Your Garden." A hands-on workshop sponsored by the Alpine Master Gardeners and the Michigan State University Extension. At the Livingston Township Hall in Gaylord, Michigan. \$30. For more information, contact Amanda at 989-983-4401, spiderwebranch@peoplepc.com.

Saturday, October 4, 2008, "Ohio State University Extension Master Gardener Conference." A whole day and a great line-up of topics, including Janet's descriptions of "Cutting back the rambunctious garden," "Doubling Up Perennials" and "The Collector: Engaging harmony from intriguing diversity," and "Mixed Borders." In Warren, Ohio at Kent State University, Trumbull campus. Open to Ohio State Master Gardeners and friends. For a description of the conference and registration information, check the website* or call Steve Hudkins at the OSU Extension (330-637-3530).
*Paste www.ohiomastergardener.com to your browser bar.

Thursday, October 9, 4:00 - 7:00 p.m., "Garden by Janet - Bring your gloves and tools!" At a Farmington Hills garden, we're dividing perennials. Come learn a thing or two, try your hand at splitting the species you've hesitated to tackle, and bring your own divisions to share if you like. Free to my newsletter readers. Email or call Janet (JMaxGarden@aol.com or 248-681-7850) for details and to reserve a spot in this limited-space workshop.

Saturday, October 18, 10:00 a.m. - 1:00 p.m., "Cutting Back the Rambunctious Garden." A hands-on workshop sponsored by the Detroit Garden Center. Learn to prune shrubs, trees and perennials that want to outgrow your garden. At the Nature Zoo on Belle Isle in Detroit, Michigan. \$35. For more information, call the Detroit Garden Center at 313-259-6363 or email detroitgardenctr@yahoo.com.

Tuesday, October 21, 9:00 a.m. to noon, "It's big but we can move it" We've got a number of shrubs and dwarf conifers to move at a garden in Franklin, Michigan. Come see and hear how. Free to my newsletter readers. Email or call Janet (JMaxGarden@aol.com or 248-681-7850) for details and to reserve a spot in this limited-space workshop.

About attending Gardens by Janet sessions:

We gardeners are let-me-see, hands-on people and that's how we learn best. In these sessions, I offer you that kind of chance to grow. You can visit me where I'm working and you can either watch or work with me side by side. I hope you'll bring your gloves and join in so you realize the most value for the time.

At the **gardens I tend through my business, Perennial Favorites**: I've worked for many years with some of my clients, who not only trust me with their landscapes but also understand my enthusiasm for teaching. They open their gardens to small groups who want to see and practice "how to." When the work I'm scheduled to do may be of interest to you and the situation allows on-lookers or apprentices, I invite you in.



So one day I was re-setting rocks around the pond, we got to talking about changing this and that in the garden, and I said, "Can I invite my readers to watch or lend a hand?" Photo ©2008 Steven Nikkila

I've volunteered in the **Detroit Zoo Adopt-A-Garden** program for 20 years. During that time more than 100 people have worked with me, some for a day and others for years. We have fun, we learn, we accomplish much. The program requires that regular garden volunteers complete an interview and orientation process but you can try it for a time or two on a temporary pass as my student. **If you'd like to join me at the Detroit Zoo**, email mstgarden@yahoo.com. Make the subject line of your email "I'll help at the zoo with Janet." That email will put you in touch with my good friend Deb Tosch who keeps my group's schedule straight while I plan and lead the work. You'll receive upcoming work dates and instructions for getting to the zoo and meeting up with my group.

Watch this space to join me in other non-profit gardening events and in gardens I design and tend.