



Check pages 6 & 8 for more about off-color leaves.

What's Coming Up:

Janet Macunovich and
Steven Nikkila
answer your growing concerns
Issue 126, January 5, 2011

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Left: Roadside roses in northern regions tend to be chlorotic -- with dark veins but unnaturally pale leaves. Road de-icers may be the cause, altering soil structure and pH so that the plant can't take up necessary nutrients.

Ammunition varies but persistence is key in bug wars

Is there any hope for my beautiful *Ficus* which has scale? I've continually picked them off and have sprayed it twice with summer oil. The whole tree is now somewhat sticky. The scales seem to be getting larger.

How do you check for this before buying a plant? - M.L.C. -

Hope is great, M.L.C., but facts are best. Here's how to beat the sap-sucking class of insects we call scales.

Reminder: Your 196-page, 3-year newsletter index will be emailed soon. More about it on page 14. Let us know if you do *not* want a copy.

Nearly invisible when **newly hatched, "crawler"** scales move around for a while, piercing the plant to sip in various places until each finds a suitable juicy, safe spot. The crawler inserts its straw-like mouth and spends the rest of its three month life there, siphoning water and nutrients. If the scale is female -- most are -- it sheds its legs and **matures as a stationary, sap-sucking bump.** The scale's cast-off "skin" plus a waxy excretion **hardens into a shell** that glues the pest to the leaf, protects it from the elements, and shelters its eggs. The shell grows, layer by layer.

Most plants susceptible to scale have **a few in residence all the time**, but their presence remains below our radar because **natural limiters keep the numbers low.** Rainwater rinses and wind shakes crawlers loose before they set up shop. Insect sickness, bug-eating insects, and other predators take a toll.

The healthy plant sets limits, too. Some plant defenses are physical, such as cell walls tough enough to make a young scale waste energy breaking in, thereby reducing its chances of surviving to adulthood and procreation. Some tactics are chemical, relying on substances a cell in top shape can make that sicken or kill whatever imbibes. Some defenses are very complex, involving chemicals that pass into the air from injured tissues, attracting predators of the insects doing the damage. More about these chemicals on page 4.

Arrows point to a soft brown scale (left side) and its giveaway -- the shiny, sticky dots of honeydew it drips onto leaves below.

Cute birds mean business

Those chickadees that hop about in your shrubs all winter are peeling scale shells from twigs and eating the eggs underneath. Want to hear more about capitalizing on such feathered favors, or simply celebrate the good things birds do for our gardens? Join Janet and friends in Royal Oak, Michigan on January 23. See page 16.

One method for many scales

There are many species of scale, many of them able to live on just one or a group of closely related plants. Magnolia scale is found only on magnolias, for instance, while only pines host pine needle scale, elms have elm scale and yews have fletcher scale. Some scales have a bigger host group, so that cottony maple scales might be found on locust and beech, lecanium scale can be a pest of cherry as well as oak, soft brown scale is likely to exist somewhere in every houseplant collection and oyster shell scale crosses family lines between crabapples and lilacs.

The good news is that the same control method works against almost any scale. That is, if the plant needs our help, we aim to kill both current crawlers and those that will next emerge from under existing adults' protective shells. The timing depends on scale type, with most outdoor scale crawlers emerging in spring as leaves unfurl, but the ammunition we use to make the kill can vary from clear water at high pressure to spray-on, rinse-off insecticides or absorbed systemic products.



When a plant is weak from lack of light or other poor growing conditions, or other natural limiters are absent, a few scale eggs can become **thousands of scales in just 90 days**. The weaker the plant, the faster the build up.

Eggs take about a week to hatch. Crawlers crawl for two or three days, then settle in to grow their waxy armor. They are fully sheltered, egg-laying adults in just 60 days. Even without a mate, one well fed female can produce 1,000 eggs before she dies.

You can use **oil** (over the counter horticultural oil, oil soap or even vegetable oil well mixed in water), insecticidal **soap, hot pepper** solution, and **other pesticides** to kill the shell-less crawlers. Aim the spray to coat all leaf surfaces, upper and lower. Just be aware that these sprays roll off of adult females and shell-covered eggs, so they have to be reapplied to catch successive hatches until all existing adults have died and their last young killed. Follow-up strikes must come after eggs hatch but before new crawlers can develop thick skins, at intervals based on the spray's residual activity -- usually, **three applications at two- to three week** intervals, and again if there are signs of recurrence. It may take six to eight of these cycles to break a severe infestation. You can win the war more quickly if you combine sprays with a tactic aimed at the adults, perhaps scraping off all you see, scrubbing them away while the leaf is soapy, or drying them to death by swabbing each with rubbing alcohol.

Once a scale outbreak is under control, you can **maintain the balance** by keeping the plant in good light and showering or cleaning its foliage and stems regularly with plain water.



Soft brown scale (*Coccus hesperidum*) is the scale most often found on houseplants, especially citrus,

Ficus, ferns and ivies. This one is living on a bay leaf. Its sister may be imbibing from a nearby orchid if it was able to crawl across adjacent leaves or drop from overhanging foliage. It's a bit more than 1/8 inch long, about average for a full grown member of its species.

Early control is the key to staying ahead of these ubiquitous pests. Shake hands with the plant regularly, checking leaf blades for shiny, sticky honeydew that's telltale even before the scales are large enough to see easily. Look on leaf undersides, too, for adults.

Rub off the adults or kill them with a dab of rubbing alcohol, being careful not to get too much on the plant, as it can burn some leaves. However, you shouldn't quit there, since there are almost certainly crawlers at work if you see an adult. Apply an insecticide, too or wash the plant thoroughly with soapy water and then a forceful rinse.

90 days since good light?

Indoor plants getting by on daylight alone have been on waning rations since September. During that time, pests have had the edge. Population explosions are common in winter's second half. Check now for pests!

Hot pepper spray

Peppers contain capsaicin, a very effective irritant that deters insect feeding and the browsing of larger animals. It tastes hot and can make your eyes burn, but does far more to insects, disrupting their metabolism and derailing the nervous system. Employ this phytochemical in ready-made pepper sprays (search for *hot pepper wax* on the Internet), or make your own:

1 bulb of garlic, crushed
1 finger-sized hot pepper, minced, or
1T dried hot pepper flakes
1 tsp Murphy's oil soap or dish soap
1 gallon hot water

Put the garlic and pepper in a large glass container and pour the hot water over them. Mix in soap. Let sit for a few days in a warm place. Strain through a cloth or fine sieve, then put in a spray bottle to use on plants. Apply to upper and lower leaf surface. Guard your eyes, keep pets away while you spray, and wash your hands well after use. Re-apply after rain or plant is showered. For plants in full sun, test the spray first on one leaf and check for foliage burn after 24 hours, before using on the entire plant.

Marvelous medicine from mighty defenses by healthy plants

Plant cells are chemical soup. If the plant's healthy, its cells are full of chemicals it's acquired from the water and air, plus enzymes that allow those elements to mix and meld in ways that would otherwise only happen if a great deal of heat or electricity was involved. Some of these **phytochemicals that plants developed in their own defense** or created as metabolic by-products have turned out to be **potent medicine for us.** For instance:

Plant-derived phytochemical	Plant source	Its function in the plant	Its use(s) to us
Artemisinin	Sweet Annie (<i>Artemisia annua</i>)	Deter herbivores?*	Potent anti-malaria drug
Asclepin	Asclepias curassavica, and other milkweeds	Immobilizes caterpillars for days, so they starve	Slow and strengthen heart rate
Capsaicin	Peppers	Deter predator feeding	Salve for arthritis pain relief
Digoxin	Woolly foxglove (and others)	Deters browsers	Regulates heart rate
Gossypol	Cotton (<i>Gossypium spp.</i>)	Deters bird-, insect and rodent feeding	Cancer cell inhibitor; possible male contraceptive
Quercitin and other terpenes	Perilla frutescens	Fungicide	Antimicrobial, anti-inflammatory, sedative and anti-cancer effects
Saponin	Bouncing Bet (<i>Saponaria officinalis</i>)	fungicide?*	Increase immune response, boost vaccine effectiveness
Thymol and other terpenes	Poreleaf (<i>Porophyllum gracile</i>)	Makes internal chemicals more deadly to caterpillars	Facilitates transmission of medicines through the skin

Some of these chemicals can be synthesized, but in most cases economics dictate that we harvest them from the plants. As a result, we've learned that the levels of these compounds within the plant are constantly fluctuating in concentration, so there is an optimum time to harvest. That time? Usually when the plant is most actively growing in conditions best suited to its species.

*Scientists have only scratched the surface, yet identified over 25,000 plant-made chemicals -- phytochemicals -- in the group called terpenes. Likewise, 10,000 alkaloids have been dipped from various plants' soup. A complete list like this would have mostly question marks in column 3 because science has focused on finding pharmaceutical and agricultural uses for these substances, not identifying their precise function in the original plant. It's too bad for gardeners, because we know from products such as Neem oil made from a lilac-relative Asian tree, that what works as a fungicide or insecticide in one plant can work as well on others. Stay tuned. More interest in these horticultural uses is developing. Until more is known, set up your own experiments, such as making a simple tea from tip growth of a consistently mildew-free plant growing in a mildew-prone garden or from a plant never troubled by insects. Use that as a foliar spray on other plants to prevent trouble.



Dots of honeydew don't remain shiny and clear for long. Sooty mold grows there. If shiny and sticky don't alert you to sucking insects' presence, sooty mold should. Noticing problems is most simple when you know what a healthy leaf looks like, then check into unusual appearance. The leaf at far left is a normal, healthy tulip tree leaf. The other has spots of sooty mold. Somewhere above that leaf are sucking insects, source of the honeydew that fostered this sooty mold..



Left: To keep a houseplant healthy, keeps its leaves clean. Cover the soil surface and spray it thoroughly with a mild soap solution, then shower it off. Clean leaves receive more light - that's more energy -- and the bath washes away pests.

Far left: This leaf surface is dark with sooty mold and bears another telltale of sucking insect trouble -- a lady beetle. The lady beetle is there on the hunt for sucking insects such as scales, mealybugs or aphids. Left: Look on both sides of leaves above the sooty mold and you'll find the insects creating the honeydew. Here it's orange aphids.

Below: Immature lady beetles hunters sucking insects, too. When you see one, rest assured its prey insects are present, too.

Bringing scale home: Not this gardener!

Even if scales are too small to be seen, they are visible via their fall-out. A scale-infested leaf pales, yellows and dies. Lower leaves and stems may become shiny-sticky from dripping excrement. Don't buy plants with these symptoms or plants that are adjacent to scale-infested plants.

Patronize greenhouses that have clean plants. Keep any new plant in quarantine for several weeks, checking it regularly for any signs of trouble. If symptoms develop, use a hand lens to inspect leaf undersides where insects tend to gather. Many favor spots along the midrib near the leaf stalk. Nip any invasion in the bud.

Go light on wood ash in the garden

Can I put fireplace ashes on my ivy beds? - B.K. -

Only in moderation, B.K. **Spread them thin and check the bed's pH** every year because ash can really push a good, neutral- to slightly acidic soil toward the alkaline range. That's only desirable if the soil is extremely acidic to begin with. In the Midwest and Great Lakes where alkaline soil is common, ash applications **can make a garden's pH go over the top** from slightly sweet to growth inhibiting alkalinity.

Ash can change soil pH quickly. It's far more soluble than that other pH-raising amendment, gypsum (calcium carbonate). While gypsum works slowly, ash has the speed of impact of winter de-icers that fall, splash or run off onto soil. Ash you spread in winter can lock soil nutrients into an alkaline mix by spring, causing weak, chlorotic growth.

Most soil scientists agree on a rate of **one bucket of ash/garden/year for acidic gardens**. That is, if a garden's soil has a pH below 0, it is probably okay to spread a 5-gallon bucket (20 pounds) of ash over 1,000 square feet per year. Then, check the soil pH every two years to know when to remedy high pH as necessary. If the garden is neutral or alkaline to begin with, dispose of the ash some other way.

If a bed's pH rises, stop adding ashes. Mix them into a compost pile instead, along with a handful of acidifying soil sulfur for each small bucket of ash. Once the compost is ready to use the ash and sulfur will have neutralized each other.

Right: Chlorosis is a symptom, and may occur for a number of reasons including a nutrient deficiency.

This coneflower (*Echinacea*) leaf is chlorotic because a virus infection has weakened the whole plant.



Ash flashes

- When you handle wood ash, protect your skin and eyes. Ash is alkaline enough to burn, especially if wetted.
- When applying ash to a garden, make sure it's spread thin. If it sits in lumps, salts build up there and can burn roots.
- Never apply quick release nitrogen fertilizer where ash has just been spread. the nitrogen in the fertilizer -- the most expensive ingredient -- will react with the ash and escape as a gas.
- Never add wood ash to a potato bed, since acidic soil is necessary to prevent potato scab.

There's gold in them thar ashes?

Ash has some value as fertilizer, returning a little phosphorus, a nice dose of potassium, and some micronutrients to the soil. It's equivalent to a 0-1-3 fertilizer. Yet on the farm, ash had more value for other uses, especially soap making.

Soap, and the benefits of being able to keep clean, are often taken for granted today. Not so in the recent past, when soap making was a tough task and soap a valuable commodity.

Put wood ash into a wooden barrel set on a stone base. Add water to steep the ash, and collect the run off -- lye! Check its strength by floating an egg in it -- it should float with a spot the size of a quarter above the surface -- or by tossing in a chicken feather, which should begin to dissolve. Farming manuals advised covering your legs and arms and keeping vinegar on hand to rinse any burns made by lye. Protect your eyes -- don't put your face over the boiling mixture. And. 'Keep 'children, pets and the feeble minded" away from the soap-making area.

Next, render fat to remove the impurities, and simmer fat and lye for several days until it froths. Cool it and keep a keg of that jelly-like liquid as "soft soap" to be added to wash water. Or add salt to the cooked solution so it will cool into cakes -- hard soap.

The Militia Law of 1775 specified a soldier's rations, including:

Twenty pounds of soft, or eight pounds of hard, soap for one hundred men per week

Got enough soap for the farm, and wood ash left over? Use it to sweeten soil overloaded with manure and urea. Dust it on certain trees and vegetable crops to kill insect pests or slugs (see page 8). Mix it as a paste for polishing metal (wear gloves!) or tanning hides. Mix it with sand as a de-lousing dust bath for poultry. Include it with other ingredients to make ceramic glazes.

Midwinter fire and new year ash

Many cultures have midwinter fire traditions, celebrations to recall the sun and warmth. At each, wood is central. So it follows that there are also traditional dispositions of a log from that sacred fire. Some people extinguished the Yule log before it burned completely, then held it to start the next year's solstice fire. Others collected ash from that special fire for use in a fertility blessing in an orchard or mixed them with pigment for a painting.

Scrabbling in the garden: Pale leaves and bug hatches

We gardeners earn admiring murmurs when we display our garden's produce in vases and on plates. Stir up a bit of that admiration by tossing a nifty horticultural term or two on the table during the next Scrabble game. For instance:

chlorosis: noun; kloh ROH sus; yellowing or whitening of normally green plant tissue, often symptomatic of nutrient deficiency within the affected plant part; from chloro- / green and - osis / abnormal condition Can be considered analogous to human anemia; *Often when a plant exhibits chlorosis the veins in a leaf may be dark green while the tissues between are pale.*

eclose: verb; ih KLOHZ; emergence of an adult insect from a pupal case or an insect larva from an egg; *Technically, an insect doesn't hatch from an egg, it eCLOSES.*

Chlorotic leaves have sections that are pale for lack of chlorophyll, the substance that makes photosynthesis possible. Often, the area between veins is more pale than the veins themselves. The condition might indicate the plant needs nitrogen or another essential nutrient.

That element may be lacking in the soil, or the soil when moist may be too alkaline or acid to release those ions to the plant, or the plant's roots may have been damaged so that it cannot accumulate enough nutrients for the foliage. Veins, the first part of a leaf to receive water and dissolved chemicals from the roots, may get their share of the scarce chemical but tissues further away may not. When older leaves are chlorotic while newer leaves are more green, the plant may be redistributing its stock of the scarce element from older to newer growth.



Never alone in the garden! Our mentors are there, with ash and soap:

Most of us had a **parent, neighbor or other veteran gardener** to guide us through our first attempts to grow. The **gardening advice they gave us** may include facts that took many years to develop and generations to confirm and tweak. Think how many growing seasons and trials went into this:

"To deal with cucumber beetles, sprinkle a mix of rye flour, ashes and plaster on plants' leaves."

We haven't tried it, but it seems worth a try. Its basis must involve some experimentation, since it's unlikely three such ingredients came together by accident. They aren't exactly a whatever-came-to-hand kitchen combo.

One of Janet's mentors is someone she never met but whose every word she took out to the garden and tested. Thalassa Cruso's advice carried with it images of ages past, yet was great for

its own day and continues sound nearly four decades after she committed it to paper in the books Janet read, including *Making Things Grow Outdoors* and *Making Things Grow Indoors*, and *The Gardening Year*. Listen to these, relevant today and to this issue:

I planted my first seeds....under the supervision of a great-aunt. She directed my activities wearing full braided skirts that swept the ground, gloves, a feather boa, and an enormous hat, tied around with a purple motoring veil for fear of the sun.

There was another aunt who gardened fitfully, casually and inexpertly, and managed, to my mother's annoyance, to grow the best roses in the family.

World War I had made labor unobtainable, and my parents were the first of the family gardeners to do some of the physical work themselves...(I remember) being lifted by him to brush with a soapy toothbrush the infested stems (to rid roses of aphids).

Have memories and advice from your own mentors? Send them in and we'll share all we can.

Where in "Christmas tree" do you see the word "evergreen?"

Hi Janet, Hi Steven,
Your last gardening email about bringing in a Christmas bough really hit a chord with me... Years ago my family was going to be away for Christmas but we were hosting a family party a week or so before. We usually bought a live tree and didn't have an artificial one. So I went to my dad's nursery and cut down a small birch that he didn't want for some reason. I spray painted it a bit to make it more white and stood it in the living room. I decorated it with teal colored ornaments and silver. It was an eye catcher all right. Everyone either loved it or hated it but everyone remembers that tree that year. B.K.

From Thalassa Cruso's obituary in the 1997 New York Times

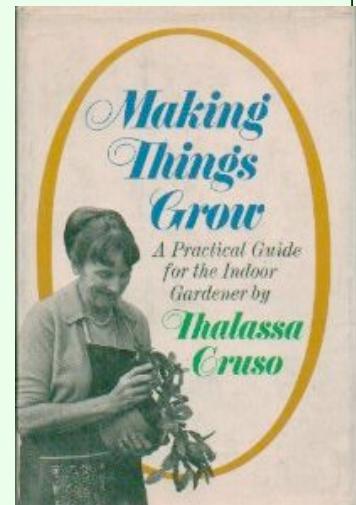
Ms. Cruso, a witty, acerbic Englishwoman... indoctrinated viewers into the mysterious world of cyclamen and spathiphyllum, enjoining them to tend their plants with loving kindness, and to throw them in the dustbin without a backward glance if the little ingrates failed to respond.

"If a plant is unbelievably tatty, dispose of it without the least feeling of guilt," she told McCall's in 1971.

Trim and elegant, with dark bangs and a determined chin, Ms. Cruso possessed an uproarious wit, blunt candor and cultivated eccentricity.

"Ha! There's the little brute," she once exclaimed as she flicked an invading slug onto her worktable.

Cautioning squeamish viewers to avert their eyes, she raised a flowerpot on high. The pot came crashing down, and the slug was history. WGBH in Boston, which produced the program, was inundated with mail from delighted viewers.



This week in our garden

Grow with us! This week:

We move "more fluorescent fixtures" higher on our wish list. Winter's a lean time for professional gardeners, but leaner still for our indoor plants. So we'll find the funds to brighten their world.

We'll take you shopping with us in the next issue, to look at grow light bulbs and fixtures, ready made and cobbled. Until then, keep in mind that these are the darkest times of the year if you garden in the northern

hemisphere. Your plants are struggling to stay ahead of their pests and energy -- light! -- is what they need to create internal pesticides. Get them more light now or you may soon see brown scale, mealybug, whitefly or fungus gnat outbreaks.

Top: A full-spectrum bulb in a cast-off shop lamp might be the thread an indoor plant hangs by, in winter's dark days. Above: This might not be much but left on 24 hours a day, it's better than nothing and may be what keeps our excess jades healthy until we find them homes!

Right: Fluorescent bulbs are best just 2 to 8 inches above the foliage, because light intensity drops dramatically with every inch away from an artificial source. Incandescent bulbs burn hot so keep them far enough away to avoid leaf burn.

Why is that plant wrapped in plastic? See pages 11 - 12.

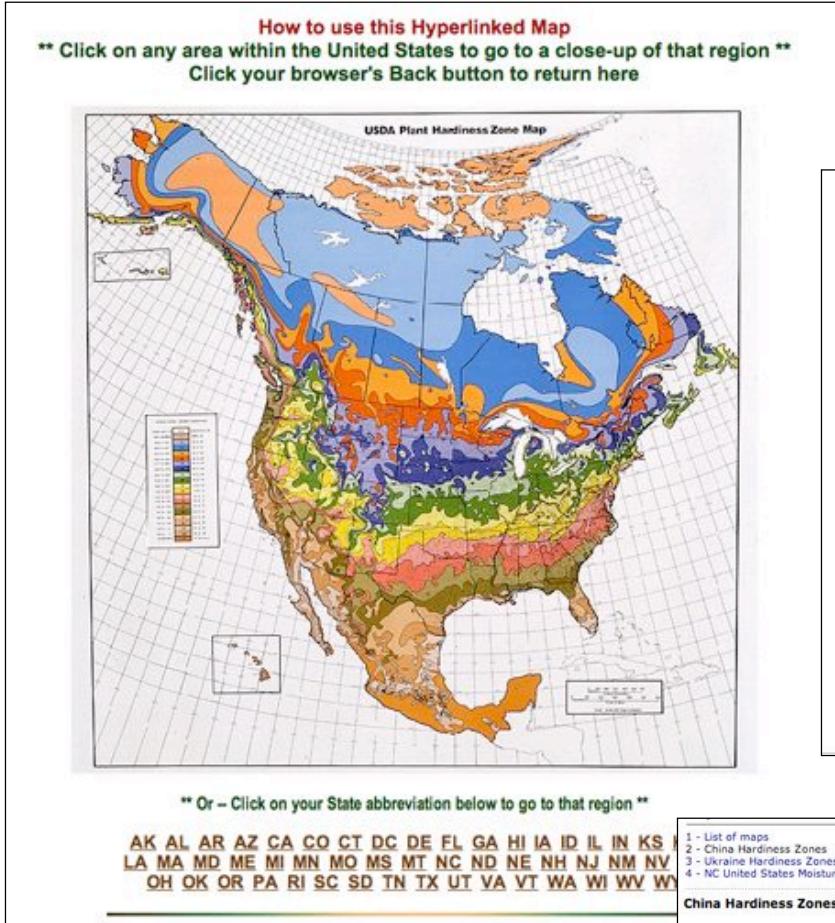
Learn from our friends in other places. While things are suspended under snow at home, we can go to other places to learn. We're now in Santa Cruz, California, visiting Janet's niece Kati Drdla and her husband Mike Craig. We're determined to learn from rather than simply envy what happens in a zone 9 garden in winter. Yes, bearded iris and bear's breeches are beginning to bloom and camellias are in full glory, but we try to look beyond as well, to the how-to and what's-that of other seasons. There are, for instance, some same-but-different weeds to get to know, such as a larger, bulbous oxalis (left: Bermuda buttercup, *O. pes-caprae*) that's even more



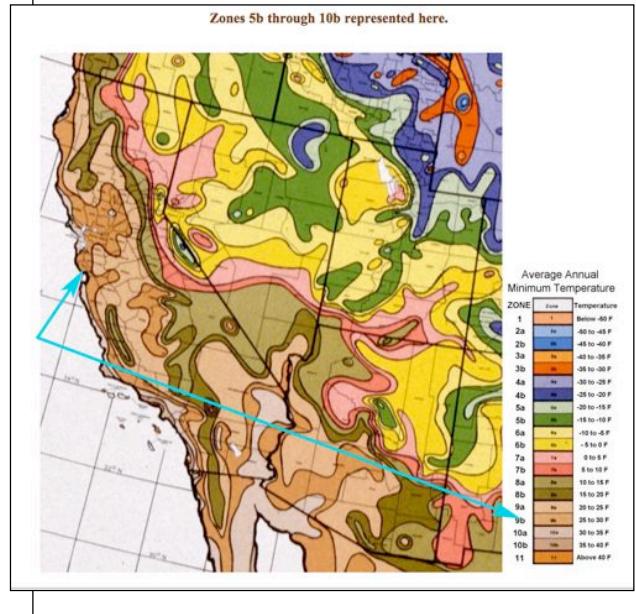
daunting than the wood sorrel oxalis we deal with regularly. We also find reason to be grateful for unexpected things, such as our little eastern moles, once we compare their work to gopher tunneling.

When we travel in North America, we can compare our destinations' hardiness zones to our home zone with the USDA hardiness zone maps.

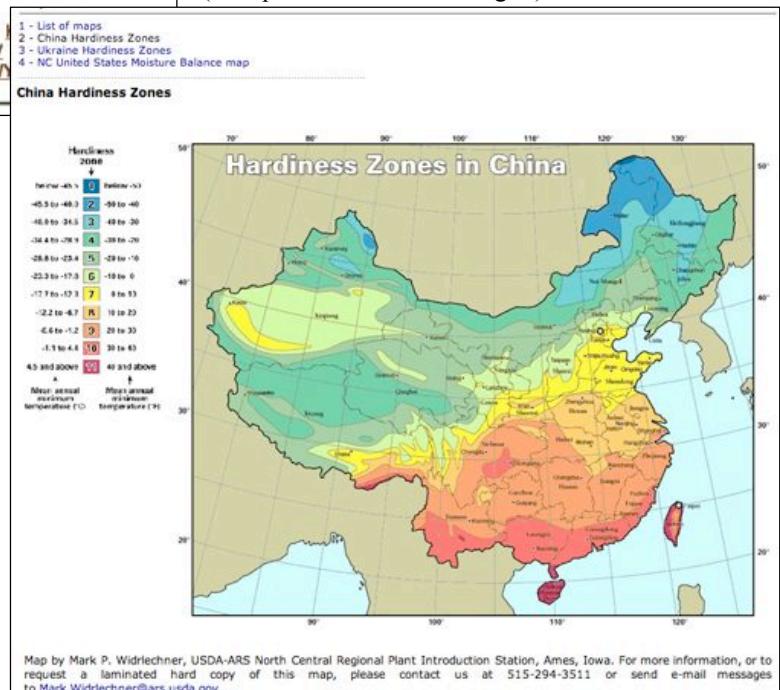
Below, left: At <http://www.usna.usda.gov/Hardzone/index.html> we click on "go to the hardiness zone map", to find:



Then click on the State or region to zoom in. The arrows point to where we are right now, and the hardiness zone.



(3 maps from www.USDA.gov)



This week in our garden, continued...

Thank goodness we bagged the plants.

While we're away, our housesitter has enough to do. All the small plants we have that tend to need water every few days, are better in temporary terrariums.

Readyng little plants for weeks or even months without us:
These small plants have nearly filled their pots with roots and require water every few days.
We make sure the plants are as moist as they need to be.
We put stakes in the pot.(We know! No one *ever* wants to eat at our house once they see how often kitchen implements are involved in plant projects!)



We pull a clear or relatively clear plastic bag over the stakes and tape or rubber band it closed
Voila, a temporary terrarium.



Want to feel like a kid again?

Dress up and go out into the winter cold with friends.
You have to be there to understand what fun it is!



Some of our fellow Detroit zoo adopt-a-gardeners joined us at Michigan State University Tollgate Farm Education Center on January 2 to bundle and save redtwig dogwood canes. One fine day in spring we'll turn them into colorful fencing for our gardens.

Ah, remember those days when Mom or Dad would insist you put on yet another layer of clothing and a snowsuit, too, before going out? We do. From left: Keith Heraty, Anne Crimmins, Janice McNulty, Priscilla Needle, Paul Needle, Maddie Laule, Debi Slentz, Darl Slentz, Dawn Miller, Marilyn Alimpich and Janet can't tell it's 22°F through all those layers!

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 caught our eyes as we drive this week.

We had a **monkey puzzle tree** (*Araucaria araucana*) in our home for many years. Its name refers to the branches, which are very evenly placed and would be eminently climbable except they're covered with stiff, sharp needle like leaves. Our plant eventually outgrew our home in size and prickliness.



What fun it is to see a very similar plant (Bunya pine or false monkey-puzzle, *Araucaria bidwillii*) grown as a street tree in zone 9 Santa Cruz, California.

We do pity those who live below it, to face the stabbing sharpness of its discarded foliage and twigs!



Who's Janet? Who's Steven?

Janet's a lady who gets a lot of mileage out of a garden. That's how Macunovich was once described by a client of her business, Perennial Favorites. "I love what you plant for me, Janet," she explained. "I even think I get to know the plants pretty well but then you come here with your stories about the plants and *why* something is growing a certain way. I love it, it's like you open up windows I didn't know were there." Janet brings the same depth and enthusiasm to books and articles she writes, classes she teaches and practical how-to materials she develops.

He's a guy who sees not a beautiful plant but exactly where a gardener fits into a picture.

Steven Nikkila's a horticultural photographer who's also planted hundreds of gardens in dozens of different situations in running a gardening business with his wife, Janet Macunovich. That work's paired him with people whose gardening experience levels have ranged from just sprouting to heavily branched. Steven's history of showing so many people "how to" plus his own broad knowledge of what has been or needs to be done in a garden adds to his photos. His alterations in composition, angle or light have caused thousands of gardeners to say "Oh, I see!"

Email questions to Janet or Steven at JMaxGarden@aol.com or call 248-681-7850.

If you ever miss an issue

Send us an email and we'll re-send.

Download the current or last week's issue at our web page, www.gardenatoz.com. (Don't look for much else there as it's not a site yet, only a page. We'll work on expanding it this winter, as we want the real-time Q&A forum it can provide.)

For collected issues purchase our CDs. The *Asking About Aster* CD has a year of these newsletters and an additional five years of our weekly columns plus one-on-one Q&A. The newest, *Potting Up Perennials* has 101 issues. Each CD is completely indexed. Every issue of *What's Coming Up* includes descriptions and ordering information for these and our other publications. (See pages 19 & 20.)

Indexes are going out now!

We're emailing our current index. It covers all our e-newsletters from April 2008 through December 2010. With it you can find a concept, plant name, a key word you recall from a quote, or even a memorable picture. It works in the traditional way -- flip to the heading you need ("Design", "Maple", "Planting" etc.) and scan the subtopics to find what newsletter issue and page to read. What we think is more exciting is that it can also be searched electronically. This can be faster and reveal more cross-references. The index package contains a complete, illustrated "how to use" on pages 188-194.

194! Yes, it has a lot of pages. We indexed *everything*.

If you do not need the index, please let us know with a "No index" email.

If you're eager for it, bear with us. Completing the mail-out will take a couple more weeks since we are also sending regular newsletters and have to keep our total number of emails below Spam limits.



<p>Index to What's Coming Up® 2008 - 2010 page 2</p> <p>Scroll through pages / alphabetical listings to your chosen field for conventional use. Or go to pages 188-194 where <i>How To Use This Index</i> will help you to do an e-search which jumps faster and catches more related items.</p> <p>Alelia cut back hard WU65 Pg 4</p> <p>Aleis, <i>balsam</i> GC766 Pg 2 <i>Alies balsamea</i>, balsam fir WU26 Pg 4 <i>Alies compacta</i> GC765 Pg 3 pruning WU55 Pg 6-7 winter interest WU72 Pg 1 don't prune to bare wood WU56 Pg 6 dwarf evergreen WU113 Pg 3 holiday folklore WU72 Pg 2 [identification notes] WU72 Pg 3-9 multiple leaders / tops not desirable WU43 Pg 7 pruning GC765 Pg 3 salt damage GC773 Pg 3 stress WU1 Pg 5</p> <p>absorbic acid affects hardness WU16 Pg 1</p> <p>Abrilina growing mums overwintering WU113 Pg 3</p> <p>Acacia seed longevity WU13 Pg 2</p> <p>Acalypha hispida, indoor bloom GC75 Pg 5</p> <p>Acanthocarpus bears' breeches WU46 Pg 11, WU52 Pg 8</p> <p>Acer, maple <i>Acer buergerianum</i> trident maple WU2 Pg 2 <i>A. griseum</i>, paperbark maple WU21 Pg 3 bark WU124 Pg 7 <i>Acer negundo</i>, box elder as with WU113 Pg 10 not to be WU113 Pg 10 determining age WU115 Pg 10 <i>Acer palmatum</i> Japanese maple WU121 Pg 9 beautiful habit GC771 Pg 2 <i>Acer palmatum</i> WU115 Pg 5 dwarf purple leaf WL99 Pg 5 fall color WU64 Pg 9 fertilizer WU115 Pg 2 green form GC771 Pg 2 leaves fail to drop in fall WU67 Pg 7 mature size WU66 Pg 2 midsummer collapse WU101 Pg 6</p>	<p>Entries in violet text: Refer to files on the CD Asking About Asters</p> <p>Page number examples:</p> <p>WU10 Pg 2, violet Go to the file What's Coming Up issue 10, page 2 on CD. Asking About Asters</p> <p>GC771 Pg 1, violet, Go to the file Growing Concerns, page 3 on CD Asking About Asters</p> <p>Entries in brown: Go to the file GC75 issues, not yet compiled on CD.</p> <p>WU9 Pg 4, green. Go to the file What's Coming Up issue 89, page 4 on CD Potting Up Perennials</p> <p>Entries in green text: WhatsUp #22 - 122 Compiled on CD Potting Up Perennials</p>
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Where to catch Janet & Steven in-person:

Saturday mornings, January 22, January 29 and February 5. Join Janet, Suzan Campbell, and Cheryl English as the Detroit Garden Center presents the Center's **20th Winter Seminar series**.

20! How 'bout that! And with so many good friends coming each year. It's a great learning time but also a great get-together.

This year we'll spend those three Saturday mornings growing into some new Gardening Perspectives:

January 22: *Gardening in Small Spaces*. Janet shows you how to grow and enjoy more in a courtyard, tiny bed or other small area.

January 29: *The Big Picture: Overhead, underfoot and long ago in SE Michigan gardens.*

Suzan Campbell, Conservation Educator at the Michigan Natural Features Inventory and Cheryl English, professional gardener and educator, take you back to glaciers and forward to today to show you to what your garden's really made

of, why you should care, and how to get the very best four-season effect in your garden with native plants.

February 5: *All the Best Sense in a Garden.* Janet gives you a fresh look at your garden as a place of wonder for ears, skin, nose and taste bud. It's how to design and tend your garden to have more dimension and fun, even with your eyes shut.

9:00 a.m. - 12:30 p.m. each date, at **Historic Trinity Church, 1345 Gratiot in Detroit**, around the corner from Eastern Market. \$30 per class or \$75 for the series. For more information or to register, call the Detroit Garden Center at 313-259-6363 or download a registration form at www.detroitgardencenter.org.



Have a tiny, tough spot to garden? A courtyard? A minuscule strip along the driveway? a planter box? Join us January 22, 29 and February 5 for ways to make that spot a great garden. You won't believe how much dimension it can have and fun it will be, all from starting with its "small" aspect then working down to its bedrock and out into all five senses.



Sunday, January 23, 3:00 - 5:00 p.m. Janet and her good friends Catherine Connelly and Sue Kempinski-Hennessey (right) present *Birds, Gardens and Poetry* a celebration of things we love in the garden and book signing by Catherine of her new book *The Nature of Poetry*. Janet will speak at 3:00 about planting for the birds. From 4:00 to 5:00 Catherine will read and lead poetry readings by any and all who wish to celebrate their garden and the life in it.

In Royal Oak, Michigan at Wild Birds Unlimited, 28588 Woodward between 11- and 12 Mile Roads.

Free, but reserve a spot by calling 248-548-2424. *The*

Nature of Poetry will be available for sale, and Catherine and illustrator Sue Kempinski Hennessey will autograph books. All proceeds go to support breast cancer research.



Grow with Janet at **Olbrich Botanical Gardens in Madison, Wisconsin**:

Tuesday, January 25, 6:30 - 8:30 p.m., *Simple, Successful Garden and Landscape Design*. Janet presents steps suitable for anyone developing a bed or a property, for themselves or others. Topics include how to match the design to your needs, set a budget, arrange plants and other elements beautifully and even predict needed care.

Wednesday, January 26, 1:00 - 4:00 p.m. it's *Garden and Landscape Renovation*. Janet leads you through practical, in-depth how-to for making changes while maintaining unity between old and new facets of a property.

Take one or both classes At **Olbrich Botanical Gardens** 3330 Atwood Avenue in **Madison, Wisconsin**. For more information, contact the gardens' office at 608-246-4550 or copy this URL to your browser bar to read about classes and download a registration form:
<http://www.olbrich.org/education/classes.cfm>

Friday, January 28, 10:00 - 11:15 a.m., Janet presents *Renovating the Older Landscape, Part 1* for those deciding where to start and what they can accomplish in changing what's already well established on a property, and

Friday, February 25, 10:00 - 11:15 a.m., *Renovating the Older Landscape, Part 2*: more of the nitty gritty how-to for making your landscape dreams come true.

Attend one or both sessions. Presented by the Meadow Brook Hall Garden Club in **Rochester, Michigan at Meadow Brook Hall**. (Take Meadow Brook Rd. west from Adams south of Walton rd., and follow signs). \$5 per session to non-members. No advance registration required.

Tool Cleaning party. Bring your tools, learn how to clean and sharpen them, then set a spell among good company and put those tools in order!

Sunday, February 6, 1 - 3 p.m. in Ortonville, Michigan

Sunday, February 13, 1 - 3 p.m. in Milford, Michigan

Sunday, February 20, 1 - 3 p.m. in Troy, Michigan

Sunday, February 27, 1 - 3 p.m. on lovely Belle Isle in Detroit

We're co-hosting parties this year with friends and fellow educators Celia Ryker, Sue Shuttleworth, Deb Hall and the Detroit Garden Center. Details are still being finalized but expect to chip in about \$5 toward supplies. Email or call ahead to reserve a spot and receive all the location details. You can email Janet and Steven now to reserve a spot, but if you're reading this notice after New Year's 2011, check a newer issue because reservation arrangements may evolve.

Invite Janet or Steven or their expert friends to your club or community.

We go where we're invited! That's taken us all over the country and then some over the past 20 years. We address many topics, drawing from our list of **100+ talks**. We also continue **to meet groups' needs** and expand our horizons by developing new material or "hybridizing" from what we already have.

So, whether it's...

- a **how-to lesson for a garden club** meeting,
 - a **hands-on workshop** at a site of your choosing or
 - a **multi-part class** for a small group,
- ...we're game!

We can also connect you to one or a whole line-up of other experts who know how to explain how-to. So give us a **call or send an email** to make a date, request our list of classes and talks or get a referral.

JMaxGarden@aol.com or 248-681-7850. Our calendars fill about a year in advance for spring weekends, and six months ahead for most other weekends and evenings. So give us some lead time. Then we can meet you in *your* garden.



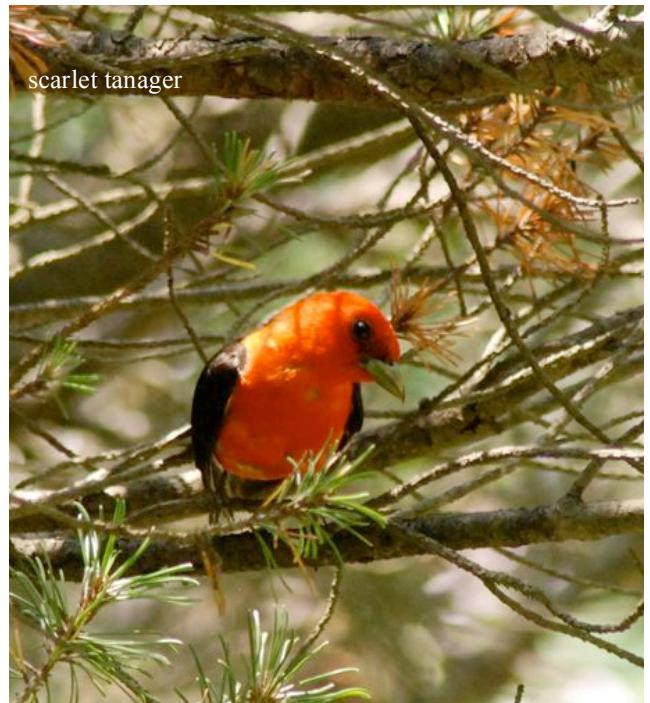
Steven Nikkila and Janet Macunovich have been digging, shooting and teaching how-to for 22 years. They began producing conferences in the early '90s and then ran a gardening school for 12 years, featuring expert instructors who knew their stuff in the garden as well as knowing how to get their messages across in front of a group. Janet and Steven are glad to help you themselves or refer you to these others to meet your group's need. Contact them at **JMaxGarden@aol.com or 248-681-7850** when you want to set up a talk, workshop or class.



Time to garden your walls...

Steven's decorated many walls with great garden and Nature images. He can help you do the same with photos that capture the garden beauty you love, framed or on canvas to your specifications.

You can own any of Steven's images from *What's Coming Up*.* Or if you have a flower, type of scene or hue in mind, request your dream. His library includes tens of thousands of plants and natural images, so Steven can assemble a customized photo sampler and price list for you.



Email us at JMaxGarden@aol.com for details, to request a sampler or to place an order.

Prices for **Steven's garden art** vary with your wishes in format and size. Examples:

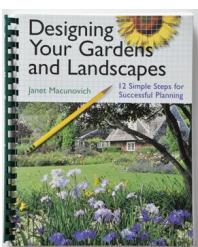
Matted, framed, overall 11 x 15", \$48

36 x 48' no-fade **cloth tapestry**, \$215



*Images in our newsletter are depicted in low-resolution to facilitate e-mail transmission. Steven's originals and art created from them are full resolution, with so much clear detail they are sharp even as wall-size cloth banners.

You asked for our advice "on paper". We wrote and sell these books plus CDs:



Designing Your Gardens and Landscape

First published in 1990 as *Easy Garden Design*, a 150-page step-by-step recipe that's become a design classic. Janet developed, uses and has trained thousands of others to use this process. People say: "This is exactly the simple, clear approach I need!" This design process is applicable world-wide.

Soft cover, spiral bound. B&W illustrations by Janet. \$19.00

Caring for Perennials

Janet's unique approach to perennial care how-to, the real-time story of one bed from early spring to season's end. The 180 engaging and fact-filled pages make you part of all Janet does and you might ever need to do in each task's appropriate season and sequence. Includes a chart of what to do, when for 70 top perennials. Advice in this book is applicable in all of temperate U.S. and Canada. The perennial chart includes a key to adapt its timing for far southern or northern edges of that range.



Soft cover book. Text by Janet Macunovich. Color illustrations by Steven Nikkila. \$20.00



Asking About Asters CD.

A digital library of six years of Janet's work: weekly columns, newsletters and over 200 extra Q&A letters to individual gardeners. 1,681 questions answered about soil preparation, fertilizing, pruning, design, choosing plants, foiling bugs and much more. No repeated topics. Fully indexed; the entire collection can be searched from one index.

1 CD in jewel case, Windows- and Mac compatible. \$20.00



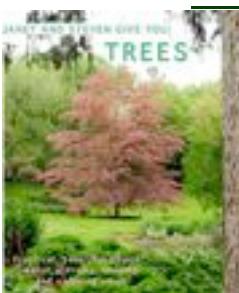
Potting Up Perennials CD. New for 2010

Practical, beautiful answers about perennials and all kinds of flowers, trees, shrubs, design, pruning and much more is in this collection of 2009 & 2010's *What's Coming Up*. Includes 101 issues with over 1,700 pages, 1,600 articles and 2,400 images. Has a comprehensive index with how-to guide so you can search for any topic or detail in any of the 101 issues. Bonus on this CD: Steven Nikkila's Daydream Screen Saver, 74 of his most vivid works from gardens and nature.

1 CD in jewel case, Windows- and Mac compatible. \$20.00

Janet & Steven's complete digital library New for 2010

Set of two CDs: *Asking About Asters* and *Potting Up Perennials*. \$30.00



Janet and Steven give you: Trees*

A choice collection of Janet and Steven's advice for tree selection, planting and care. Each article made its debut in *Michigan Gardener* magazine and has been on hold since, awaiting completion of its fellows until this comprehensive compilation became possible. Topics include: Selecting trees; fall color; what's happening to ash trees; replacing a big tree; descriptions, lists and photos of great trees; why starting small is a good idea when planting; planting how-to, why's and why not's; staking, watering and fertilizing; mulching; rescuing a tree from the lawn; preventing construction damage; pruning to keep trees and shrubs small; removing suckers; detecting girdling roots; and dealing with maple tar spot and lecanium scale.

10" x 13" magazine, 48 pages. Color illustrations. \$12.00



Janet and Steven give you: Landscape Ideas*

Janet and Steven's favorite articles on landscape design and renovation: Designing with foliage color; covering up after the bulb season; doubling up perennials for 3-season color; shady solutions; using usual plants in unusual ways; designing hypo-allergenic gardens; Murphy's Laws applied to gardens; renovation how-to; fragrant plants and designs; attracting wildlife; rockwork; invasive plants; discovering a site's hidden assets; using herbs in a landscape; and how to cheat to improve a garden quickly. These articles appeared first in *Michigan Gardener* magazine individually between 1999 and 2010. Now they're collected in this set for your design library.

10" x 13" magazine, 48 pp. Color Ill.'s. \$12.00



Janet and Steven give you: Garden Care*

Vital how-to for tending a garden, from Janet and Steven's favorite articles on: bed preparation; soil testing; making a weed-free bed; spring start-up; improving hard-packed soil; fertilizing; watering; cutting back and deadheading; repairing irrigation; drought-tolerant plants; sharpening tools; tweaking in summer; staking; and the art of fall garden clean up. Items in this collection were selected from among Janet and Steven's ten years of *Michigan Gardener* articles. Each made its debut in that magazine, waited for its companion pieces and now they all join your library in this more durable and comprehensive form.

10" x 13" magazine, 48 pages. Color illustrations. \$12.00



Janet and Steven give you: Trees, Landscape Ideas and Garden Care *

Set of three 10" x 13" magazines, 48 pages each. \$30.00

*For a look inside, email JMaxGarden@aol.com with the subject line "Magazine peek."

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Still FREE:

Our *What's Coming Up* e-newsletter.



Pages and pages of timely garden how-to every week!

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We accept orders by mail with check or money order, and in-person orders any time you come to one of our educational events or hands-on gardening session.