

What's Coming Up:

Janet Macunovich and
Steven Nikkila
answer your
growing concerns
Issue 133, February 23, 2011

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Hard clay: Can water do what shovel can't?

I bought a **liquid aeration product** from Nature's Garden. Is it worthwhile to break up clay soil? I made one application already in fall. Cost me about \$80 for enough to do three applications to 3,000 square feet. The literature said this company's in its 25th year. I'm a graduate chemist, retired now but interested in this. Do you have knowledge about it or any **experience with it?** - George -

Two things came to mind right away when you asked, George.

One, that since **soil chemistry is involved, the issue is enormously complex**. Every teaspoon of soil has different minerals, holding to each other in myriad ways. Even that small amount is populated by billions of living things which constantly alter the chemistry of their environment. Predicting with certainty what will happen when a chemical solution is added is next to impossible.

Two, **we doubt there's any benefit**, or any lasting benefit. Chemical formulations that make water wetter -- surfactants -- have been available for a long time, and been showing up in the garden market for decades. We recall, for instance, Basic H from the 1970's and Turf2Max from

the '90's, neither of which made enough of a stir to draw agricultural or turf research dollars. (Some products and techniques receive a lot of attention; so far we've found only one study of this kind of product, done at Iowa State. It showed no significant improvement in turf or soil structure.) Our instinct is to say that if these products worked, all of us would all know that by now and have thrown away our digging tools.

However, we checked with a brilliant chemist who specializes in surfactants. Now we have much more to think about, including one very important third point. Namely, that today there are much better surfactants than ever before, which might change a soil structure in some cases.

Maybe once it's thoroughly wetted, worms, tiny organisms, fungal threads and root tips will find their way into that soil's larger spaces, exerting pressure and leaving residues that could rearrange some of its more densely packed bits. Maybe if the soil can be wetted right before a freeze, the expansion of water between bits of clay can open more spaces. On the other hand, maybe the very wet water would move too quickly through the soil to create any lasting effect. Maybe it would collapse some space even as it creates others. (See *Some bonds...* at right.)



In these maybes is the possibility that **a miracle product could appear**. Your scientific background could help you make some objective tests. If you do that, let us

Surfactant: Making water wetter

Water on its own is not all that good at soaking into things. Its molecules have a great deal of surface tension so they want to cling together in big drops rather than separate into driplets small enough to slide into very tight places, such as between tightly packed clay particles.

Add the right chemicals -- soap is an example -- and water penetrates better. These additives that modify surface tension of molecules to make a liquid wetter are called surfactants.

Some bonds shouldn't be broken

Consider a block of dense clay. Its bits of mineral are very tiny and stick to each other like static-charged fabric. The particles are so small that most spaces between them are too tiny to admit water flow. What water is there is drawn up by capillary action, as a drop of blood may zip up into an open ended pipette.

Then there is soil with better structure. It has many larger mineral particles -- silt and sand -- and decayed organic matter called humus. These collect clay grains on their surface, dust-like. Electrical bonds between silt and clay, humus and clay, and sand and clay are weaker than clay-to-clay. Spaces between particles are bigger and varied. Clay-encrusted bits stick to others because of pressure and microbial glue -- moist residue of tiny living things. Combined this way, they create airy crumbs. Spongy, that soil holds lots of water but also air.

Drop clay into water and it may loosen but as it dries its tiny bits simply settle again into dense sludge. Dunk an airier clump of soil, and at first it holds together well. Keep it soaked a while and its glue may soften. Separated bits sift and settle into denser order, like a ring left behind after a bathtub drains.

When super-wet water floods in and then departs, we wonder that harm done to pockets of airy crumbs may be greater than the good done to denser clay portions of a soil.

know your results. We'll watch for test results that may come from universities or turf research associations, too. We haven't yet found independent corroboration of this product's claims. Maybe we will.

The label on the product Aerify claims it will "eliminate the need for mechanical aeration." Simple math says this can't be true. Soil that's been packed as it is on construction sites, so it has only 10 or 20 percent air space, must experience mechanical disturbance or it will never reach 50% air space, the gold standard for a garden.

Maybe we'll hear from you or other testers that wetting agents can improve soil space by a few percentage points. We'd be glad to have that as a start. To make the rest of the space, we know **we'll still have to do at least some digging**, slitting, core aerating or other physical work. (See Issue #111 and also *Looking for back issues* below.)

More about improving hard packed soil: WhatsUp111

We have covered soil preparation topics in many of our newsletters. *What's Coming Up* #111 went in-depth on improving hard packed soil. Search the index we sent to you (*IndexWhatsUp2008to10*) to make a custom reading list.



Looking for back issues?

If you've lost one, or weren't on board 'back when', you can:

- 1) Send us an email. We can re-send an issue or two. (Just be patient with it.)
- 2) Ask a friend who also reads *What's Coming Up* to relay a copy. Or,
- 3) Order our CDs

About our CDs

- Each of our CDs covers hundreds of topics.
- Our first, volume "A" *Asking About Asters*, contains six years of weekly Q&A, including issues 1-22 of *What's Coming Up*.
- The second CD, volume "P" *Potting Up Perennials*, has issues #23 - 122, more than 1,700 pages and 2,400 images.
- Each CD includes an index that covers everything on the disk. It lets you search the whole collection for any detail.
- Until we have a place to host a complete, on-line library, we'll keep issuing CDs to capture the current year plus one or more of the missing "B" through "Q" years of our publications.
- Order the CDs to have us all in one place, fully indexed. Your order also helps keep this free newsletter in production.



To order
CDs: Pg. 14

Never alone in the Garden! Our mentors are always with us: Marigolds

Most of us had a parent, neighbor or other veteran gardener to guide us through our first attempts to grow. Some of the **gardening advice they gave us** took many years to develop and generations to confirm and tweak. Probably a good many growing seasons and observant eyes are behind the direction, "Plant thyme or **mint near cabbage** to deter cabbage worm."

That's **companion planting**. It's a known good thing, wherein the right pairing can result in pests shoo'd and essential chemicals shared. Janet's family friend Mrs. Kissinger of Stahelin Street in Livonia, Michigan, spoke of it, saying, "You be sure to leave room along the edge of the garden for **marigolds**. They're good for the **carrots and potatoes**."

We've looked into that pairing and learned that marigold roots produce chemicals that very effectively repel **root knot nematodes**, a serious pest of roots and root crops. Mrs. Kissinger probably didn't know the details of this pairing's symbiosis, only that someone in her line of mentors had noticed the effect, passed along the good word, and her gardens were better for it



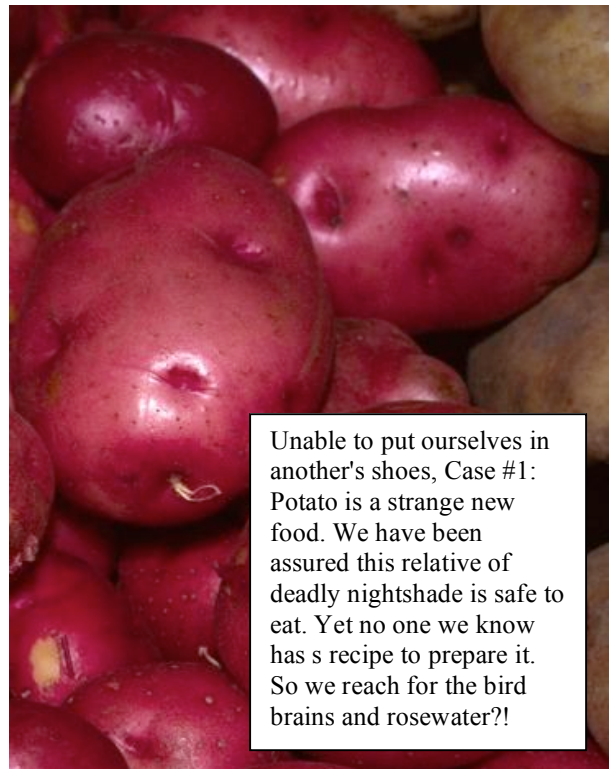
If only she'd known she had reason to be proud of her forebears' clear communication, too. This same information lost accuracy as it came down through other lines of gardeners. Thus recipients in those other lines mistakenly attribute much broader power to marigolds, making them whole-garden, broad-spectrum protectors. Sorry to say it ain't so.. Far from being repellent to some pests, they're snack food to rabbits, earwigs and slugs.



Some heirloom advice is not so nice. When potatoes were

new to Europe:

"Take two quinces, and two or three burre roots and a *Potaton*, and pare youre *Potaton* and scrape your roots, and put them into a quart of wine, and let them boyle till they bee tender, and put in an ounce of dates, and when they be boiled tender, drawe them through a strainer, wine and all, and then put in the yolkes of eight eggs, and the braynes of three or four cocke-sparrowes, and straine them into the other, and a little rosewater, and seeth them all with sugar, cinnamon and ginger, and cloves and mace; and put in a little sweet butter, and set it upon a chafing-dish of coles between two platters, to let it boyle till it be something bigge." - *Good Housewife's Jewel* (1596) -



Unable to put ourselves in another's shoes, Case #1: Potato is a strange new food. We have been assured this relative of deadly nightshade is safe to eat. Yet no one we know has s recipe to prepare it. So we reach for the bird brains and rosewater?!

Evergreen cutbacks continue: Arborvitae

B.M. writes: The newsletters are great and always SO timely! Love them!
Another great one on pruning evergreens! Yeeesss!

Glad to hit the mark. We've covered this next evergreen before. (Such as in *What's Coming Up* #58.) However, it's a popular plant and pruning it ranks 'way up there in our question log, so we keep seeing other angles we can cover.

I have several **very tall arborvitae** along my fence. These arbs are over 12 feet tall. They really shade half of my lawn which doesn't do as well as I wish it would. How much can I cut down these bushes? I'd **like to cut off as much as four feet**. Is this the best time to do it? - D.K. -



Above: These arborvitae (*Thuja occidentalis*, also called eastern white cedar) have grown naturally as single-trunk trees. Shortening these trees would proceed as we described for spruce and other needled evergreens in *What's Coming Up* #132. That is, shorten the trunk and then work down each vertical face to take the same amount off the side branches.

Reducing the size of a multi-trunk arb means shortening many trunks, including removing inner vertical wood that is leafless or nearly so.

Do it, D.K. Late winter or early spring is a good time. **Cut it, and also thin out bare wood.**

First, **chop off the top. Leave it room to grow** before it must be cut it again, by removing five feet, or six. Then it has room to grow twelve inches or

These arbs, like most grown for landscape use, have many vertical main limbs rather than a single trunk. Each was clipped back at intervals during its life to give it the buyer-preferred look: bushy. With each cut, numerous side branches remained as equals and developed into separate trunks. Ironically, these are much more likely than a single trunk to bend under snow load, and end up tied or wrapped for support, as the arb at the right side of this picture.

more of leafy, soft stuff at its top, and will finish at four feet shorter than it is now.

This first cut will bare a lot of leafless interior wood. It's bare because shading causes inner branches to lose their leaves. So an interior arb branch has leaves only or mainly on the top. An outer branch has leaves concentrated on its outside and top.



A leaf on an arborvitae is a tiny, scale-like nib. Here, "a" points to twig with many of those leaves. Any leaf-covered branch that is cut can branch and grow from its clipped tip. However, if cut when its leaves have been shed and the wood has become brown ("b"), it probably will not ever again sprout any leaves from that bit of wood. Any new growth will come from the tips of leafy side branches lower on the limb.

On an arb, new growth will usually come only from green tips. An arb branch that's beheaded and doesn't have any leaves remaining will probably become a dead branch. If it has a leafy side branch, new growth can develop on that side branch but above there the **leafless stub will die**.

After you cut the arbs back, remaining leafy tips will grow. This new growth will eventually cover any bare stubs.

Remove all bare stubs from the interior. Reach in and cut each bare limb just above a leafy side branch or cut it right out at its point of origin. Interior foliage will then have more light, so it will fill in more quickly.

You can make this cut any time. Do it in late winter or

early spring and spring growth will quickly begin to fill and cover.

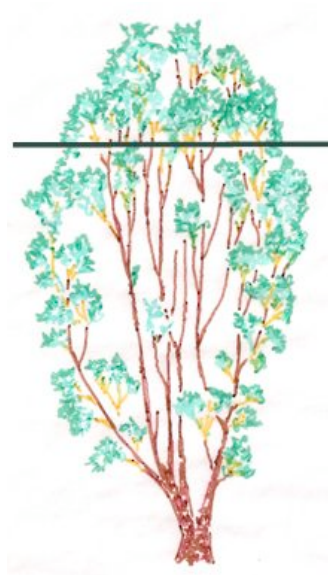
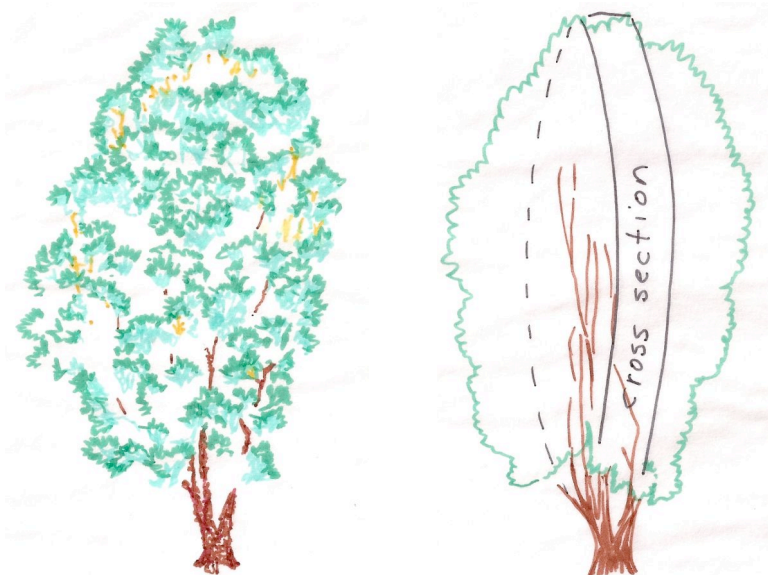
If the shrubs are **too wide at the top** after topping, you can **cut into the "shoulders,"** too.

Try not to remove more than one-third of the shrub's leaf surface in one season, so you won't reduce its energy drastically. Since an arb's foliage is often concentrated at the top, simply shortening it can mean a drastic reduction in leaf surface. In that case you may have to delay additional leaf loss by waiting a year or more to make the shoulders narrower.

Twelve feet isn't very tall for an arb, by the way. If you have any smaller arbs, don't wait until they're over-sized to cut them. Start cutting a shrub as soon as it reaches the maximum height and width you want.

To shorten the typical multi-trunk landscape arb, if it has already become too tall:

Below: To help you picture the cut-back process, we're opening up the arb so you are looking at a cross-section through its middle (below, far right). Apply these directions to all the layers and sections of your arb.



Left: The first cut is simple (horizontal line), right across all the branches at some point below the finished height you want.

Below: Next, cut back to the black bars to remove leafless wood. More light will reach interior leafy tips ('a'). After tips fill out, you might cut outer branches ('b'), to reduce the width of the shrub's "shoulders."

Tip cuttings: Growing on from what people are saying this week

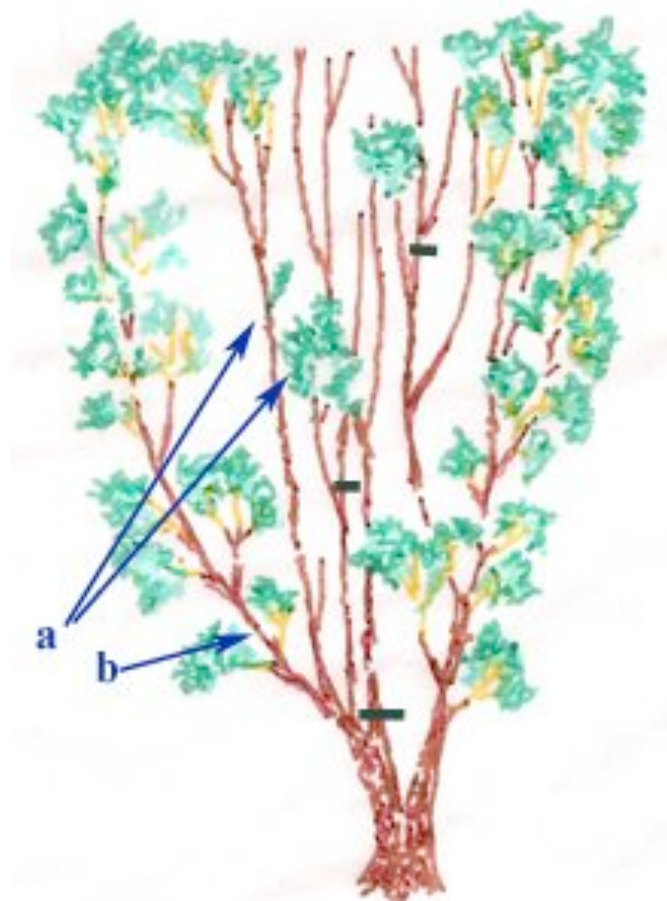
So much goes on between newsletters. We wish we could include it all. Excerpts:

After a tool care party:

Wow! Now we'll have to be careful, our tools are so sharp! :)

Funny, yes, but do **be careful whenever you change a tool**. The more well accustomed you are to the tool the more attention the change warrants.

If you have sharpened an edge you've been using dull for some time, you may cut more than you plan. The first time out with newly sharpened clippers, we often slice our glove tips. Once, when Janet was gloveless because, "I'll just clip that one stray branch" it took several stitches to reattach her fingertip. This past week we switched, mid-clearance, to a new snow shovel. We hadn't



realized how dull the old one had become, how much extra force was going into each scrape. So we weren't prepared when the new blade bit in to packed underlayers the other had skimmed over. There's bruises in them thar shovel blades!

After a tool care party:

How nice to hold such well-balanced shears! You say they were your grandfather's?

One of the benefits of getting together to clean and sharpen tools is the chance to see what others use, even try them in your hand.

Some of the nicest tools we've seen have been antiques, one implement kept in play because its edge doesn't dull, another treasured for its lightweight balance.

If you have a special hand-me-down tool, send a photo and a few words about what makes it special. We'll post them for admiration by all.

Welcome to Indian winter!

...So we were greeted by our friend Cliff Suhr, proprietor Big Apple bagels in Waterford, as the February thaw turned on its heel and ran before the storm.

Sparkle on Snow

Squeak underfoot and sursurus of crystalline snowslide from the shovel.
Touch tight rolled rhodie leaves, ice slick twigs - will they shatter?
Sniff cedar needles pinched by fluffed finches huddled there,
Taste the smoke of hickory and oak.

- Janet -



Winter returned? Is that really so bad?

Buck up, gardener! Wouldn't you rather have winter be white rather than gray, muddy and dotted with snow-banked trash? We'd rather keep the snow until a few days before spring, so the soil's protected and the ugly melt-out season is as short as possible.

Spruce, scrabbled

We gardeners earn admiring murmurs when we display our garden's produce in vases and on plates. Why not rouse a bit of admiration for **interesting garden terms**, too? For instance, that "sprucing things up" in spring and spruce are connected not by fresh forest scent or the broomy features of a needled branch, but by the reputation of Germanic people for discipline and fine workmanship.

spruce tree: noun, SPROOS; any of various evergreen trees in the Genus *Picea*

spruce it up: verb, SPROOS; to make neat and trim. *This garage is a mess, let's spruce it up.*
adjective, SPROOS; top notch

These terms are **connected via Prussia**, known as Prussi (say it PROOS-ee) to the Romans and Sprussi or Sprucia to anglicized Latin speakers. The people of Prussia had a reputation as strict disciplinarians, so to put something in "spruce" order was to bring it into the best possible shape. Similarly, to assign that term to goods or produce (spruce leather, spruce beer, spruce fir tree) was to praise it as the best.

Thanks to M.K. for sending us to www.phrases.org.uk/a-phrases-a-week and to J.C. for the use of your *Oxford English Dictionary* which told us even more about this.

This week in our garden

Grow with us! This week:

Order some heirloom vegetable seeds. Maybe some flowers, too. the world is losing far too many special varieties that were consciously selected for particular traits such as great flavor or unusual color and unconsciously selected for durability. They are disappearing from the world as fewer, bigger companies produce most of the world's seed.

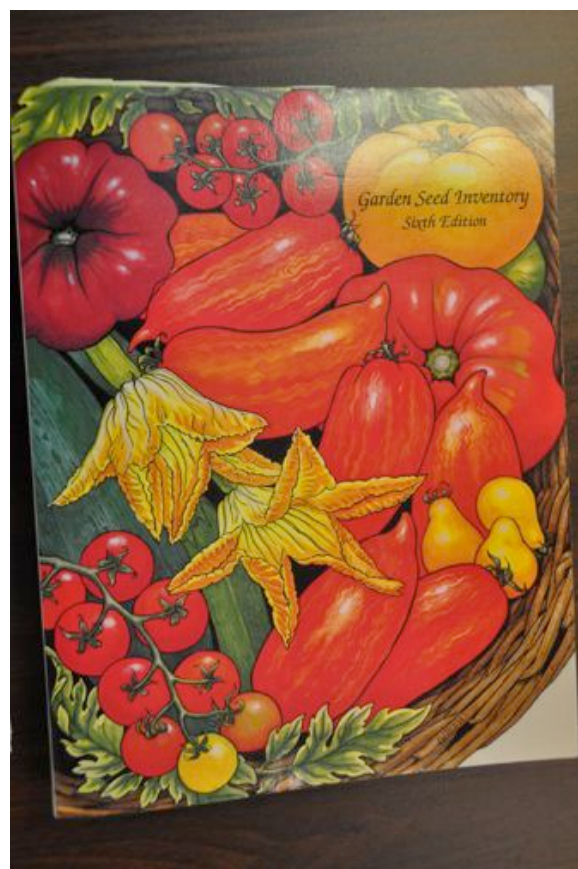
From Seed Savers Exchange you can buy seed from dozens of heirloom vegetables and flowers, and support the preservation of many more.
www.seedsavers.org

Not knowing where your food comes from is a primary form of alienation.

- Allen Lacy *The Inviting Garden* -

To help us make all 19 years of our articles available to you

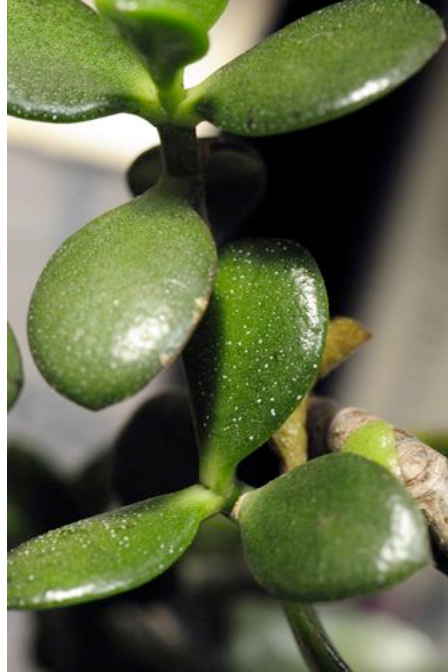
We've been working on our own web site, with an open library of our work and a real-time forum so you can also read and join in to all of the discussions that go on here between newsletters. We aim to have that site up this year but we do have to cross a big hurdle in terms of development and hosting cost. If you would like to make a donation to help us do that, we'd appreciate it. Send a check payable to Janet Macunovich, to 120 Lorberta, Waterford, MI 48328.



Learn from what we live with. The plants in our homes may be our best chance to observe cause and effect, because the environment is simpler than outdoors. We can manipulate many elements, from potting mix to light and air temperature.

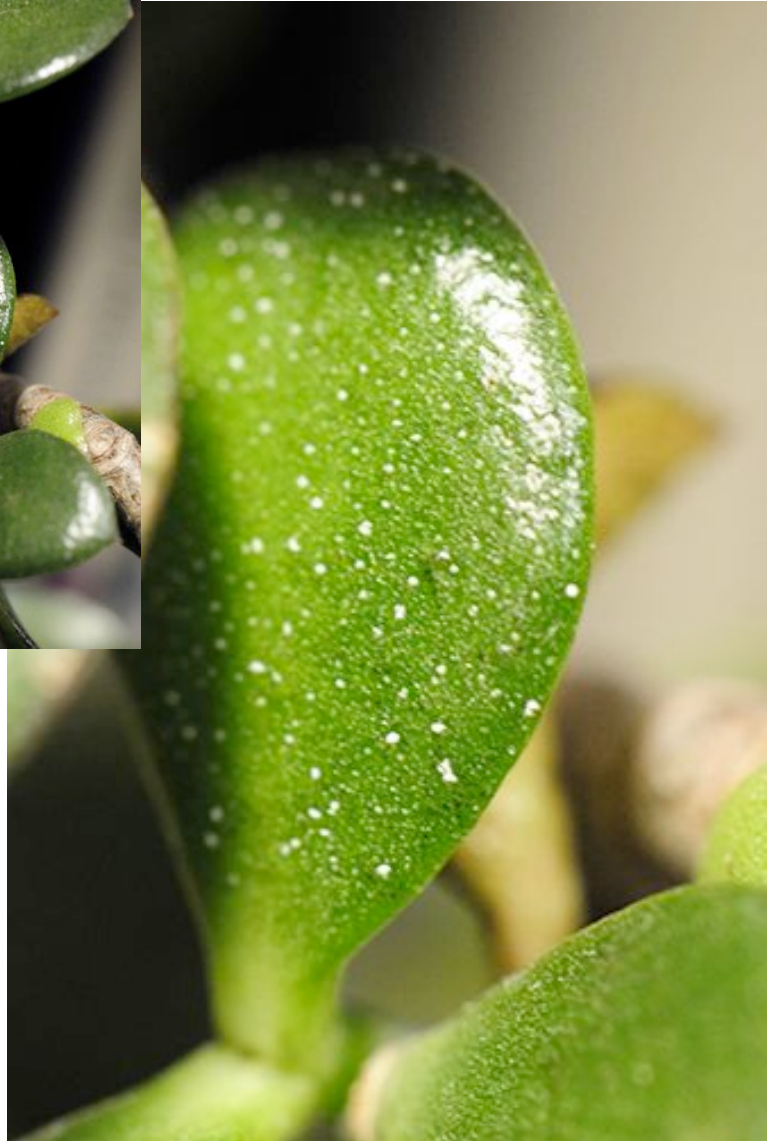
Accidental experiments count! Recently, we failed to notice right away when a grow light bulb fizzled out above one of our jade trees. Its leaves now sport tiny points of crusty white. "Wow, Steven, look. Salt crust in the jade's pores!"

We'd just watered all the jades before the one lost its light. Only that one became crusty. It was photosynthesizing at great rate, then blam, no light. Water that was in the process of moving through a leaf and being used -- broken up into hydrogen and oxygen or transpired as vapor -- simply sat and evaporated right there. Salts from our hard water or fertilizer residue remain.



No problem, we can shower the plant to dissolve and clear the pores. Or let renewed water vapor movement do that gradually.

Grin and bear storm-related calls from warm-weather friends during this change of season. National weather reports and slow news days have made this occurrence more common. To D.S. in Savannah: Hardy dee har and thank you for the offer of emergency aid in the form of a St. Bernard, but you didn't have to include in your message that it was 77 degrees in Savannah when you called...



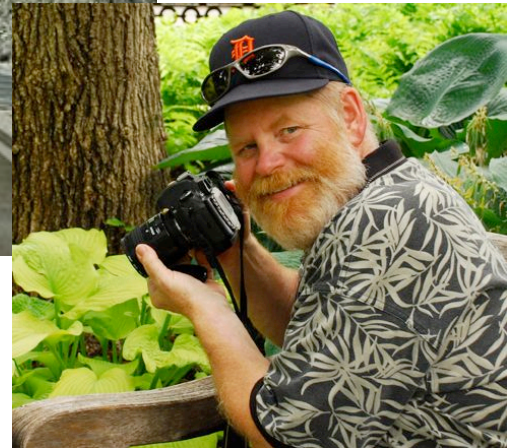
Green thumbs up to the Association of Professional Gardeners on its 12th birthday, counting from its first gathering at Goldner Walsh Nursery in Pontiac, Michigan on February 28, 1999. Its members have studied together and shared their experience, helping not only themselves but all their clients. AssociationofProfessionalGardeners.org

Green thumbs down to the beauty of an ice storm, if in admiring it we forget that it is almost certainly causing many gardeners grief. First bow your head and make a peace with the situation. Then, even when it's our own plants, we can be free to delight in the sparkle.



A happy person is not a person in a certain set of circumstances, but rather a person with a certain set of attitudes.

- Hugh Downs -



Who's Steven? Who's Janet?

A gentle guy with an artist's eye. He's been Santa's helper in his off-seasons for decades, where his soft voice, small stature and kind eyes are perfect for the shy kids frightened of booming, big-guy ho-ho-ho's. During the growing season he transfers that caring to the plants he places and pictures. But cross his backyard birds, unnecessarily harass a hawk or heron, or roust a toad that was bothering only flies, and watch his eyes grow fierce.



A trowel and notebook gardener. Janet gardens professionally but cultivates learning as diligently as she does her clients' gardens. She's written ten books, produced a Q&A column weekly since 1993, created and run a gardening school, speaks to groups and teaches classes every chance she gets. "What I know for certain after all this time is that every minute in a garden can be wonderful if I keep two things in mind. One, no one ever knows enough to be completely on top of a garden -- even if we could remember everything at the right times to keep every plant in line, Mother Nature always has something new for us to

learn. Two, that there are always more things going right than wrong in a garden. focus on the positive or you might miss it *all*."

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

Where to catch Janet & Steven in-person:

March 1, Tuesday, 7:00 - 8:30 p.m., Janet's presenting *8 Months of Color* at the Howell Carnegie District Library in **Howell, Michigan**. Free.

March 3, Thursday, 10:00 - 11:00 a.m., Janet explains how to *Get the Garden Ready for Spring*. In Waterford, Michigan at the Waterford Garden club meeting in the Waterford Parks and Rec Building. Free.

March 7, Monday, 7:00 - 8:30 p.m., help from Janet about *Gardening in Small Spaces* at the Northville Library in **Northville, Michigan**. Free.

March 10, Thursday, 7:30 p.m., join Janet for *Canned Goods: Container Gardens* at the **Farmington, Michigan** Hill and Dale Garden club meeting in Heritage Park's Spicer House.

March 12, Saturday, 10:00 - 2:00 p.m., *Garden by Janet - Making wattle fencing*. Open to MSU Extension Education Center Tollgate Farm volunteers. Novi, Michigan.

March 12, Saturday, 3:00 - 5:00 p.m. *Free range Q&A*. You bring the topics to Gardenviews Store in Northville, Michigan. Janet helps you with the answers. Free.

March 14, Monday, 6:30 - 8:30 p.m., *Great Plants and Combinations* by Janet at the Lathrup Village Gardeners meeting at Lathrup Village City Hall, 27400 Southfield Road, **Lathrup Village, Michigan**. Refreshments, raffle, educational exhibits, too. Voluntary \$5 contribution asked of non-members.

March 15 & 16, Tuesday and Wednesday, 7:00 - 8:30 p.m., a two-part, come to one or both presentation by Janet to help you *Get Your Garden Ready for Spring*. Open to residents of Rochester and Rochester Hills and their guests, at the Rochester Hills Public Library in **Rochester, Michigan**.

March 17, Thursday, 7:00 - 8:30 p.m., Janet's advice for a *Low Maintenance Landscape* at the Waterford Township Library in **Waterford, Michigan**. Free.

March 19, Saturday, Janet's part of the afternoon sessions at the 12th Annual spring education seminar hosted by the Allen County Master Gardeners in **Lima, Ohio**.

March 24, Thursday, 7:00 - 8:30 p.m., Janet's recipe for *More Color, More Fun* at the Waterford Township Library in **Waterford, Michigan**. Free.

March 26, Saturday, Janet's at the Huron County Master Gardeners' Spring Into Gardening Day in **Udly, Michigan**.

Garden By Janet opportunities in Michigan and Massachusetts. Watch here for details.



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** meeting,
 - a **hands-on workshop** at a site of your choosing or
 - a **multi-part class** for a 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 talks or get a referral and list of speakers. **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.



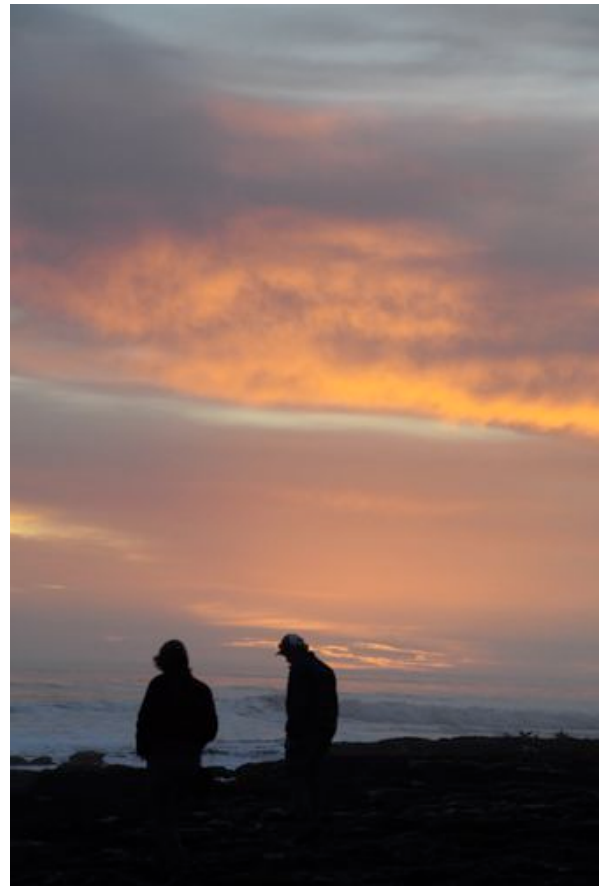
Steven Nikkila and Janet Macunovich have been digging, shooting and teaching how-to for 22 years. They began producing conferences in the early '90s and then ran a gardening school for 12 years, featuring expert instructors who knew their stuff in the garden as well as knowing how to get their messages 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.

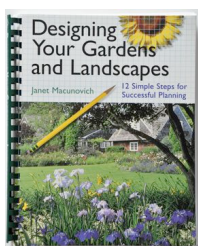
You can own any of Steven's images from *What's Coming Up*.^{*} Or if you have a flower, type of scene or hue in mind, request your dream. His library includes tens of thousands of plants and natural images, so Steven can assemble a customized photo sampler and price list for you.

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



^{*}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.

Support our work! Add friends to our mail list, or buy them our publications:



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.

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