

Southwest Trees & Turf

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Fall is in the Air By Shirl McMayon

With the gradual cooling temperatures and the steady loss of daylight comes the horticultural world's dream season—fall! I do the “happy fall dance” just thinking about this glorious time of year. We in the green industry refer to it as the optimal time to get those trees and shrubs in the ground....and not have to feel guilty about it.

I remember when I moved to Las Vegas the first time, in the early 90's, and landscapers were slamming shrubs, trees, sod into the ground in the blazing heat of summer, much to my horror. I would secretly apologize to the “victim” shrub or tree, as I said goodbye and envisioned each one headed towards a slow unnecessary death.

I realize this is a bit dramatic but for most of us in the green industry, doing the right thing when it comes to planting is not something we are willing to compromise. After all, I'm certain the majority of us didn't get into this business for the primary reason of making loads of money. We did it because we are passionate about nature and green, healthy landscapes. And getting the new plants off to a good start by simply planning and planting



Fall offers many advantages for planting. Photo courtesy: Shirl McMayon

during optimal temperatures is a huge element of the process.

So, when exactly is fall? Professionals in the green industry often have a different concept of fall than the local weather man.

As stated by Gary W. Watson and E.B. Himelick in *Principles and Practice of Planting Trees and Shrubs*, “Horticulturists often have a different sense of the seasons based on plant growth. To an avid gardener, spring may begin with

the long-awaited chance to work in the garden on the first warm day in late winter, but growth of most plants will not begin until the soil warms. To many, autumn may be closely associated with the first frost or when leaf color changes. But fall planting may be best shortly after the worst heat and drought stress of summer are past so that roots have plenty of time to grow before the soil cools.” Add to this the obvious

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Plant Introductions: Nuts and Bolts

By George Hull

Walk into any retail nursery or big box store and head to the nursery and what do you see? Lots of brightly colored containers taking the place of our customary black pot. There are labels and sticks and who-knows-what with screaming at us about this new and great plant. The pictures making us want to scoop up all of them into our cart as they sound amazing, easy to grow with endless blooms year around. So, what happened?

As plant peeps know, the prices of our product have not moved upward much in a long time. The price of a 15-gallon tree is, in many cases, less than it was 20 years ago. Somehow, nurserymen and women and breeders had to find ways to make a reasonable living.

Just like the Ford or Apple or even Nike, the drive to create something new and different that will spark a new sale is everywhere. As all of us have found out, new is not necessarily better and the same has held true for horticulture.

When it comes to food crops, the criteria becomes a bit more complicated, as their motives might



New plant introductions should be evaluated carefully before rushing them to market. Photo of George Hull courtesy of wmgregory.co.uk

be having a peach that holds up better in shipping or an ear of corn that is sweeter. This might be a bit misguided, as perhaps they might concentrate on something more nutritious with fewer disease problems, but that is another argument.

What are the horties who are attempting to bring new plants to

market looking for? Probably foremost are flowers—bigger, different colors, and more of them over a longer period of time. They may also be looking at a plant that is hardier, with fewer disease problems, easier to propagate, more compact with shorter internodes, perhaps seedless.

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“Live as if you were to die tomorrow. Learn as if you were to live forever.”

- Mahatma Gandhi

seemed to have received all the rain that usually falls in Northern California in a matter of days.

The weather is taking all of us for a wild and woolly ride. Even many of the firm naysayers have finally caved in and admitted to climate change. Whatever is going on though, we as an industry need to be flexible, adaptive and innovative to face these new challenges.

Fortunately, there are plenty of ways to educate ourselves to do so. Just like when we were youngsters, “school” is back in session when fall begins. There are a wealth of educational opportunities to be had out there. What have you signed up for in the next few weeks or months?

Of course, near and dear to my heart is the 17th annual Desert Green conference. This year,

we go “back to the roots” and return to the Henderson Convention Center. We had some great conferences there several years ago. It is the perfect size and configuration for a group our size.

If you can't make it to Desert Green, there are still opportunities all over the Southwest and beyond to keep yourself (and your employees) sharp. And if you can't travel, you can participate in online educational webinars and even full-on college courses. So these days, there's no excuse for ignorance.

For the past year, I've had the honor of presenting a talk about trees and drought strategies. I just finished giving the talk at the Landscape Expo in San Mateo, CA. The drought has really impacted this area, and people are clamoring for answers. Although I

would never claim to have all the answers, it was nice to be able to share some of the tips I've accumulated living in an arid environment for so many years.

So get out there and sign up for a class or a conference. Attend a trade show or two. Invest a little time and energy in education. The abundant return on that investment will reap benefits that will reward you – and your profession – for the challenging times ahead. ♦

NEWS

Desert Green in Full Gear

The annual Desert Green conference in Las Vegas, NV, moved to the Henderson Convention Center, is in full gear, with brisk early registration for both attendees and sponsors. Sponsorships are still available at all levels, and all include a tabletop display. The conference has been slated for November 6-7.

"Tapping into the Future: Smart Alternatives for Tomorrow's Landscape" focuses on water conservation and sustainability. The conference features two days of concurrent seminar tracks, tabletop displays and a green industry mixer.

An Advanced Arboriculture track is offered in addition to a climber's course taught in English and Spanish by the Hispanic Arborists Association. A Certified Tree Worker exam is scheduled for Saturday, November 8. Certified arborists can earn 12 CEUs at the conference.

In addition, there will be tracks on Pest Management (with pesticide CEUs for Nevada, California, Arizona and Utah), Landscape Architecture, Irrigation and Water Conservation, and Golf and Sports Turf Management.

The conference also features tabletop displays offering the latest products and services. For more information, contact Helen Stone at 702.454.3057 or stonepeakservices@gmail.com. Complete information, including online registration, is now at www.desert-green.org. ♦

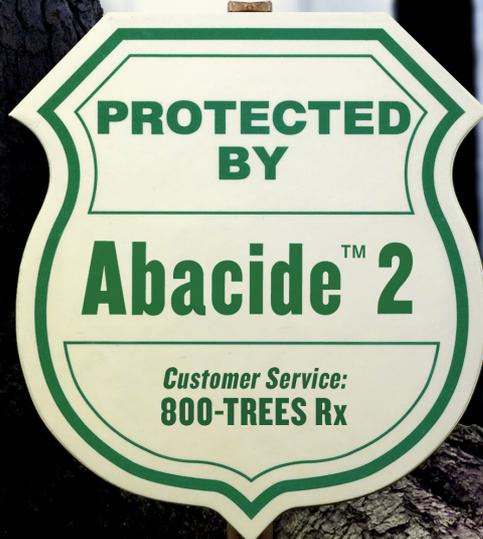
The Scoop on Synthetic

The University of Arizona Turfgrass Research, Extension, and Education program will conduct a Synthetic Turf Field Day on Thursday, October 30 in Tucson.

"The field day will provide an opportunity to learn about product choices and the maintenance that is required for safe and long-term use," says Kai Umeda, Turfgrass Science agent with the UA and organizer.

The link to the announcement is located at <http://turf.arizona.edu>. For questions, contact Umeda at 602.827.8214 or kumeda@cals.arizona.edu. ♦

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Finally It's Fall

By Dennis Swartzell

Don't get me wrong; I prefer warm weather over cold, but this summer sure seemed to be a real sizzler. The heat coupled with the long drought we have been experiencing in the Southwest, which now extends throughout the majority of California, has taken a toll on both humans and plants.

As we head into fall, we welcome the cooler temperatures and the opportunity to regain control over our landscapes. Let's look at a few things we might wish to consider. As you read this article consider developing a checklist for things that you should accomplish.

PLANTING

Fall is definitely the time to plant, as the weather is most conducive to rapid establishment. Just about everything but palm trees and *Bougainvillea* should be planted in the fall. Order fall annuals early to get the best selection at the appropriate time.

Don't wait until the last minute to install winter color such as snaps, stocks, pansies, violas, flowering kale and cabbage. Early installations become established quicker and are more resilient to the cold.

Wildflowers should be sown in October for best results. With a little luck we might get some fall rain, which will ensure early germination and even better prospects for spring color displays. Sow at the appropriate rate for the species; mix the seed with sawdust, dry coffee grounds or sand to "cut" the seed rate and ensure proper dispersal. Over saturation will result in dense stands with smaller flowers. Wider dispersal will allow the seedlings to flourish and develop eye-popping color. Poppies (many to choose from - try the Flander's), bluebells, African daisies, blanket flowers are just some of the offerings that will wow your clients.

WEED CONTROL

It appears to be a banner year for weeds. Begin your efforts by manually removing existing weeds such as spurge and crabgrass (remember the adage: one year's weed is seven year's seed).

Plan to apply pre-emergent herbicides at the appropriate time next spring. Spot treat tougher weeds such as nutsedge and bindweed with appropriate herbicides.

TURF

Now is a good time to assess the needs of your turfgrasses. If you have not conducted a recent soil test, consider submitting a sample to determine the fertility requirements. Seek guidance from your local Cooperative Extension or farm advisor on how to conduct the soil sampling and where to submit samples for analysis. Use the results to determine what analysis is best for your site(s). This is an often overlooked service that we should offer to our clients routinely to set benchmarks and then to maintain the appropriate fertility levels.

Bermudagrass should have been fertilized in early September. You can still fertilize fescue lawns with an application of a fertilizer with a 3-1-3 ratio that will help to prepare it for the cooler months.

Spot seeding may be conducted for thin areas at a rate of about 5 pounds per thousand feet (psf), but be sure to get the seed germinated by October.

Allowing fescue to enter cold weather undernourished often results in yellow, weak turf. Continue fertilizing fescue turf every six weeks to maintain good color. Aeration prior to application will aid in nutrient dispersal.

Mowing may start once the new grass reaches about two inches. Initiate fertilization one month following germination and continue applications as needed to maintain good vigor and color.

IRRIGATION

If you have been neglecting the sprinklers, now is the time to get the system into shape. Check the drip system and individual heads to ensure the components are fully functional with no clogs, cracked bodies or plugged nozzles. Pull end caps from drip lines and flush each line to eliminate solid wastes and be sure to clean the filter screens.

Inspect the solenoids for signs of degradation or loose wires. Test, service, and wrap backflow prevention devices to prepare for freezing weather. This is an item that is often put off until the last minute or forgotten all together.

Start reducing the amount of water supplied to your landscape as the weather cools. This is especially true for desert plants, as they should be encouraged to enter dormancy before the weather turns cold.

MULCH

As you prepare for winter, consider mulching those favorite plants that might be a bit tender in your garden. *Bougainvillea*, *Caesalpinia*, and *Calliandra* are good candidates. In fact, mulching flower and vegetable garden beds is highly beneficial in the fall. The placement of mulch around tree wells will help keep the roots nice and warm ready to go to work next spring. ♦

Dennis Swartzell is a consulting arborist with Horticulture Consultants Inc. who has "branched out" as a broker of quality trees and plants. He is based in Las Vegas, NV and can be reached at 702.456.7776 or via e-mail at arbor-1@cox.net. He will be speaking at Desert Green XVIII in Henderson, NV on November 6-7. Visit www.desert-green.org for more information.

NEWS

CA Releaf Names New Head



Cindy Blain

California ReLeaf Board of Directors announced that Cindy Blain will serve as its new executive director.

Most recently, Blain was the Research & Innovation Director at the Sacramento Tree Foundation, a California ReLeaf Network member. In expanding the reach of urban forestry, she developed partnerships in urban planning, transportation, and public health.

Blain orchestrated four highly acclaimed Greenprint Summit conferences designed to communicate urban forest benefits across sectors, with a recent emphasis on human health. In addition, she was responsible for leading several of Sacramento Tree Foundation's cutting-edge grant projects related to public health, air quality and urban greening.

For more information visit www.californiareleaf.org ♦

Hunter Hires Kowalewski



Robb Kowalewski

Hunter Industries is proud to announce the hiring of a new product manager to support its fast-growing micro-irrigation business segment.

Robb Kowalewski joins Hunter with several years of leadership in micro-irrigation product development, marketing, and sales. His past work experience combined with a BA in communication position Robb to have a bright and successful future at Hunter. He looks forward to continuing Hunter's legacy of innovation in the micro irrigation product family.

Robb was brought on board by product marketing manager, Todd Polderman, who selected him due to his sustained superior performance, broad industry experience, and his dedication to developing groundbreaking products.

For more information, visit www.hunterindustries.com. ♦

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A Soil is a Soil is a Soil

By Bob Morris

Soil: the upper layer of earth in which plants grow, a black or dark brown material typically consisting of a mixture of organic remains, clay, and rock particles. (Oxford Dictionaries, online version)

It is obvious the authors who wrote this popular definition of soil did not live in the Inland Empire, Great Basin, Mojave (or Mohave), Sonoran or Chihuahuan deserts. Is it any wonder that people moving into desert environments from less agri-hostile locations have so much difficulty growing things? The importance of soils in desert production should not be underestimated.

The further a plant is from its native environment, the more time, energy and money is needed for it to perform satisfactorily. When we design landscapes with plants less suitable to desert environments, we can be certain man-hours and resources must be increased resulting in higher costs and increasing budgets.

Selecting the right plant, planting it in the right location, in the right soil and managing that soil correctly is paramount to managing limited resources efficiently.

When I was studying at the University I was taught that the average soil for plant production should have test results like these: pH of 6.5-7.5, organic matter content of three to five percent, maximum salinity less than 4.0 mmhos/cm (dS/m) and a porosity (collective air spaces) of approximately 50 percent. As an inexperienced student, I assumed soils outside of these ranges would extensively damage or even kill plants.

Then I moved into the Mojave Desert and became aware that plants could live outside of these ranges. Valid soil tests from desert soils under development, but already growing honey mesquite, rabbit brush, desert sage, creosote bush, *Opuntia*, *Cholla*, *Agave* and other desert species, routinely provided a pH of 8.2 and

above, organic matter content that was not measurable, salinity exceeding 100 dS/m and toxic salt levels like boron over 50 ppm. I knew I wasn't in plant Hell, but thought I could see it from here.

Studying and working in the arid and desert West and finally the deserts and arid regions of the Middle East, Central Asia, and northern and southern Africa I have learned that nearly any desert soil is manageable. Management decisions change when the plant palette changes.

My personal definition of soil has changed. Soil is a mixture of substances, either natural or man-made, which will grow plants if properly managed. Irrigated desert soils must be managed if they are to grow plants. Soils do not need to be black or dark brown and they may not have organic matter in them but they will still grow plants.

Years ago friends of mine at the University of Sonora in Hermosillo taught me a valuable lesson about amending desert soils. I began production trials of two selections of edible *Opuntia* from Sonora, Mexico. I planted pads the same distances they were planted at the field station in Hermosillo. They were planted in unamended, raw Mojave Desert soil at UNLV's Center for Urban Horticulture and Water Conservation in North Las Vegas, Nevada.

One year later faculty from the University of Sonora came to visit the plots and see the progress that was made. The *Opuntia* were all growing but I was disappointed in their progress and production of nopales (edible immature pads) and tunas (cactus fruit).

They asked me if I had amended the soil with composted manure before I planted the pads. I had not. I assumed that because these were desert plants

they would perform better in a desert soil that was not amended. I was wrong.

We replanted a second area with fresh pads of the same varieties, this time amending the soil with composted manure. The results were remarkable. The second planting of *Opuntia* caught up to the older planting early in the first growing season and exceeded it soon afterwards. This was my first lesson: desert plants might tolerate unamended desert soils but they may not thrive in them.

The desert provides a unique environment for the evolution of soils and plants that can grow in those soils. High temperatures, low humidity, intense sunlight and lack of rainfall contribute to desert soil's unique appearance, structure, biology and chemistry. Once water is added to this mix, everything changes and it can change rapidly.

This does not mean desert soils should not be improved. They can and should be improved if we are to grow a wide range of plants. But it is important to understand that amendments produced in desert environments may have different qualities from amendments produced in wetter, cooler climates.

Two major problems which can occur in soil amendments produced in desert environments are high levels of salts and difficulty in wetting (hydrophobic) the amendment due to a very low moisture content. These are frequent criticisms of amendments and composts produced in desert climates.

Salinity problems arise from a high total salt content in the amendment or from specific compounds which contain elements that can damage plants. Specific elements that can damage plants, and should be reported in laboratory tests by suppliers, include boron, sodium and chlorides. With some monitoring by amendment producers, levels of these specific elements that can be damaging to plants can be lowered or minimized.

Total salinity of amendments produced in desert climates may be a problem if the range in salinity acceptable for soil amendments is 3 - 4 dS/m and poor quality water, such as Colorado River water, is used to leach excessive salts. It takes more water to reduce salts in desert environments than in wetter climates. More water usually translates to higher costs of production.

Remember that the salinity of Colorado River water in the Lower Basin approaches 1.2 dS/m. In other words, for every 300,000 gallons of water used for leaching, about 1 ton of salt is delivered to the compost. These salts must also be leached, reducing the leaching effectiveness of the applied water.

Compounding this problem is very high evaporation, exceeding 4/10 of an inch of water per day during summer months. Evaporation of this water leaves behind salts, adding to the salt load which must be lowered. This increased salt load also requires more water for leaching.

Where does this water used for leaching go? In the case of Las Vegas and other desert communities along the River, these plant nutrients are fed into the Colorado.

Soil amendments that contain quite a bit of course plant fibers can become excessively dry in desert environments. Once dry, these amendments can be difficult to wet without a lot of effort or wetting agents. Hydrophobic amendments like these can also increase the difficulty in leaching salts.

Establishing acceptable physical and chemical criteria for soil amendments is important for the landscape and nursery industry. Even more important is to educate consumers how to interpret tests for soil amendments when applying them to specific landscapes. In this way soils and soil amendments can be better managed. "Me too" standards is not a sustainable answer to across-the-board recommendations for all landscapes. ♦

Bob Morris is a consultant for Viragrow, Inc. Want to learn more? He will be speaking at Desert Green XVIII in Henderson, NV on November 6-7. Visit www.desert-green.org for more information.

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Southwest Tree Moving: Know and Grow By Juan Barba

Moving trees in the Southwest is interesting work; a lot of the transplant information we have is not scientific but empirical, based on results from successful movers who have accrued knowledge. Think about tree sizes that are too large for manpower; the ones that need mechanical lifting equipment to move a 30-inch box or #35 plastic container.

In the down economy big tree transplants came to a standstill. Tractors and crews were idled and there are far fewer movers today. Growing trees into large containers from liners is now more popular than digging and moving mature trees.

One distinct advantage of this trend is that ocotillos are more easily found in containers, increasing the landscape survival rate from about 20 percent to nearly 100 percent for container plants. They cost more (imagine that!), but they live when they are planted.

There are few palm movers around anymore and you just don't see truckloads on the road to life at a casino as we did 15 years ago. In the heart of Saguaro country, the Arizona Department of Agriculture has pretty much closed the Tucson office and requests for cactus transplant permits must go through Phoenix; lack of requests is a factor.

Do you think we should be moving big trees or are they frequently doomed? Let me know, please.

There are a few guidelines we can adhere to when digging and planting trees. When we look for successful transplants, the timing of the dig and the health of the specimen may be most important. But if the soil is substandard—rocky, excessively sandy, or on a steep slope, then the mover should not waste time with an attempt.

NEWS

Swartzell Elected to ISA Board



Dennis Swartzell

In August 2014, the ISA membership voted to elect Dennis Swartzell to fill a vacated position on the ISA Board of Directors. Dennis Swartzell has worked for 35 years in the tree care profession and has been an active member of ISA since 1985. Dennis is an ISA Board Certified Master Arborist® and consulting arborist.

Dennis is a past president of the Western Chapter and the current secretary-treasurer of The Britton Fund. He is a founding member, past president, and treasurer of the Southern Nevada Arborist Group and has taught pruning and nursery practices for the Master Gardener program in southern Nevada since 1993. He received an ISA True Professional of Arboriculture award in 2009 and the Western Chapter Award of Commendation in 2000. Dennis feels that training and education should be a primary focus of ISA. Dennis is excited about utilizing his experience and passion for teaching as well as his leadership skills to further the goals of ISA.

Last but not least, Dennis has been a regular columnist for *Southwest Trees & Turf* since its inception in 1996. He has had an article in every issue and has never missed a deadline. Congratulations, Dennis! ♦

The seasons do seem to make a difference; that's why many movers avoid transplanting in the winter months. Palms and desert trees seem to do better if they are installed in warmer months—go figure. Susan Chase of Desierto Verde fame told me their nursery preferred to avoid fall and winter installations because for unknown reasons trees would too often collapse in the spring.

Root pruning weeks or months in advance of bottoming and moving big trees should be considered, because survival is improved. Optimally watering a dug plant is keeping the soil near field capacity, NOT saturated. That way, all 5-10 percent of the original roots that we estimate are retained will have no trouble taking up moisture.

Dug palo verde and Texas ebony trees can be decimated by borers, which was highlighted in a recent conversation with Brad Copley, "Mr. Trees" in Tucson. Sometimes borers are a real health issue but they may be the worst menace. Diseases, even *Phymatotrichopsis*, seem to take a breather in boxes. Water will always be the biggest killer of dug trees.

We're trending to shorter root depth with big transplant trees. I remember trying to move a 22-inch mesquite in about 1990 and the box was five feet deep. It would be more like three feet or a bit more today.

The root diameter is an important calculation for root volume, which is critical because enough roots need to insure both a successful move and long-term survival. Our national standard used to be 10 inches of rootball diameter for every trunk inch, but has been revised to eight inches of rootball diameter for every one inch of trunk diameter.

My 22-inch mesquite would have required a 14.5-foot box; I specified an 11-foot box or six inches of rootzone per trunk inch.

Would a mover think that was oversized? Except for custom moves, we are at the mercy of the movers; we buy what they have. Some are very good at knowing the rooting needs of the various species, so check your source.

Boxing is not the only way to transplant trees, although it is most popular in the west. Other regions prefer ball and burlap; the techniques are similar.

The mover world seems to avoid talking about tree spades. Why? Moves are easy, cheap and can be just as successful. References to spades in the ANSI A-300 standards are about maintenance and fluid leaks; there are none in

the nursery standard, Z-60. So spade-ers move any size they wish—maybe that's the rub.

About 20 years ago, the University of Arizona moved a grove of 100-year-old olives across campus. Some had 30-inch trunk diameters, some were about 30 feet tall. They were moved in a 72-inch spade and had to be chained to the spade so they wouldn't topple out. They all lived and are for the most part still alive, although they never recovered their vigor. Olives are tough; it wasn't the water regime or the soil that kept them alive.

Maybe it is because spading does a better job of keeping the roots from drying out? Ok, so how to explain the popularity of bare-rooting big trees? I don't know what the record bare-root tree is, but is 16+ feet big enough?

The jury is out here in the Southwest. Jim Flott came to Tucson to demo the technique. But his subject plants were extremely poor nursery samples and none survived the washing, raking and bare-rooting. Flott began his research at the UofA and swears it will work in the desert. Does anyone have anecdotes to share?

Are there techniques to improve the success of big tree transplants? Select only healthy plants that are suitable for a move. Afterwards, we know optimum water is key. The ability of the new site soil to drain and the percolation rate should always be unveiled.

Fertilizer is not nearly as important, but nitrogen may be a factor in dilute amounts. As Bob Morris covered in the previous issue, organic matter in the form of fresh mulch or using best practices compost and humus can make a HUGE difference.

Chemically, a growth regulator, paclobutrazol, can improve the root volume in the soil moved. We leave the box bottom on when sides are removed; maybe removing two or three feet of the sides is enough so soil doesn't collapse and lateral roots escape.

So if we are diligent, select better trees to move, consider soils and water needs, and bring enough root mass for the specific species involved, we can have very successful moves. Listen to your mover, transplanting trees is experience-based and they should have it. But keep in mind it is biology. Some trees will just do better than others. ♦

Juan Barba is a consulting arborist in Tucson, AZ. He is the president of Juan J. Barba & Associates. Barba can be reached at 520.622.6938 or e-mail juanbarba.arborist@gmail.com.


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Fernbush Flowers in Desert Landscapes By Dan Smeal



Fernbush is easy to grow, easy to maintain, and looks great. What more could you ask?

Photos courtesy: Dan Smeal

If you are looking for a drought-tolerant, native shrub, you're in luck. *Chamaebatiaria millefolium* (fern bush, desert sweet or helechero in Spanish) is a member of the rose family (Rosaceae) that can be a valuable addition to Western plateau xeriscapes. According to the USDA Plants Database website, it is native to the states of Arizona, California, Idaho, Nevada, Oregon, and Utah and reportedly occurs in USDA hardiness zones from 3a (-40°F) to 9a (20°F) at elevations ranging from 3,400 to 10,200 feet.

C. millefolium is the single species in the genus. The species name is derived from the Greek 'chamae' for dwarf and possibly 'batos' for many-branched shrub and 'millefolium' for leaves in many parts.

It has a symmetrical, somewhat globular shape and grows to an equal height and width of between five and six feet. The leaves are fernlike and aromatic, having a pleasant sweet smell that is quite pronounced after rain. The scent has been likened to labdanum, an oily resin from certain species of European rock-rose used in perfumes and herbal remedies.

Native Americans reportedly used a tea made from fernbush leaves to treat upset stomachs. Reportedly, it has also been used by various tribes as a venereal and orthopedic aid and as a hunting medicine. While many other claims of the healing properties of fernbush (e.g. healing Alzheimer's, removing depression, helping AIDS patients) have been

made, a chemical analysis of plant foliage was unable to identify any essential oil constituent to support these claims.

On the Colorado plateau, fernbush is semi-evergreen and it's one of the first shrubs to begin forming new leaves in late winter or early spring. It begins flowering in late June or early July and the numerous clusters of small white flowers can persist until late August.

Many species of wasps and bees (including honey bees) are attracted to the flowers, so the plant makes an outstanding companion for orchard crops and other garden plants that rely on insect pollinators. While the stinging pollinators are usually too busy with the flowers to pay attention to passersby, it may be wise to keep landscape plantings of fernbush away from patios, doorways and walkways.

The plant seems to do best in full sun, but it can tolerate some part-day shade. The bark of the plant is reddish and flaky and the seed heads are brownish.

Fernbush appears to exhibit superior shape and quality at unirrigated or very low levels of irrigation. In a differentially irrigated xeriscape demonstration garden in northwestern New Mexico, at a site that receives an average eight inches of rain per year, a specimen has thrived for 10 years without supplemental irrigation. Another same-age plant that receives four gallons of water once per week (May through September) from a single drip emitter has also done well. Plants receiving

greater levels of irrigation than four gallons per week appear somewhat rangy.

All plants were irrigated periodically for the first year after planting until well-established. While the preferable soil pH range has been reported as 6.1 to 7.8, the pH of the sandy loam soil at the garden site is slightly above 8.0.

Fernbush is an attractive specimen plant in a xeriscape and when planted with like companions at four to six feet apart, it forms an excellent border, screen or windbreak. Other species of plants having similar water requirements such as *Rhus trilobata* (three-leaf sumac), *Chrysothamnus nauseosus* (rubberrabbitbush), *Forestiera pubescens* (desert olive), *Amelanchier* sp. (serviceberries), various yuccas, cacti, some penstemons and native grasses also make nice companions if not planted too close.

Fernbush appears to have no serious disease or pest problems and it does not spread and become weedy like some other popular xeriscape plants (e.g. Russian sage, New Mexico locust, goldenrain tree, wolfberry). It can reportedly be propagated by seed after three months of stratification.

Other than trimming back the dried seed heads in late winter, fernbush requires very little maintenance. It grows fast and appears to be long-lived so it can be enjoyed for several years in a drought-tolerant landscape. ♦

Dan Smeal is a College Professor/Irrigation Research Scientist at the New Mexico State University Agricultural Science Center in Farmington, NM.

NEWS

ANA Lends a Hand



More than 100 volunteers joined forces to help with flood cleanup at Cox Cactus Farm in Phoenix.

The Arizona Nursery Association contributed people, equipment and enthusiasm to assist a member nursery after catastrophe hit. On Saturday, August 23, landscapers and volunteers from across the Phoenix valley came to the Cox Cactus Farm to help with clean up efforts after a flood from earlier in the week had swept through and destroyed the nursery.

Clean up started bright and early at 5:30 AM with landscapers cleaning in different areas of the nursery and sorting through the devastation. Meanwhile, volunteers were assigned different surrounding areas to search for missing pots, plants and equipment that had floated away during the flood. There were major improvements made on the nursery and it's on track to getting back to normal again.

There is still a long way to go before Cox Cactus Farm is back to how it originally was, but with the help and efforts from all the volunteers the future is looking bright. ♦

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Love that Desert Lavendar By Dr. Jacqueline A. Soule

As we know, a landscape can offer so much more than simply a static arrangement of plants. The right plants can fill the air with fragrance and attract wildlife to the area. Shrubs like the desert lavender (*Hyptis emoryi*) are attractive to butterflies as a nectar plant, while they also offer the gardener the delightful fragrance of lavender—harvestable lavender—for sachets, potpourri, and, for the bold, lavender to cook with. With the current focus on "sustainable" and "multi-tasking" landscapes, desert lavender has a definite place on your plant palette.

Desert lavender is a semi-tropical shrub in the mint family. Native to the Southwest, it is found in Arizona, Nevada, California, and in northwestern Mexico in Sonora and Baja California, generally in rocky soils near washes, generally below 3,500 feet elevation. With its semi-tropical genes, it is evergreen to cold deciduous, the leaves remaining until the temperatures dip below 20 degrees (F).

Hyptis emoryi is a multi-stemmed shrub reaching generally eight to 10 feet tall, although heights of 18 feet are recorded. The lavender-colored flowers are variable with parentage, generally less than one inch across, they appear in clusters and thus can be quite showy and profuse as well, attracting butterflies and also bees. Leaves are oval and a silvery gray-green, covered with dense hairs. In partial shade, they may grow larger leaves that appear less hirsute. Both leaves and flowers offer the delightful lavender fragrance.

In the Middle Desert (2000-3500 feet elevation) desert lavender is ideally planted in the warm season into early fall. They generally go dormant in the cooler days of winter, thus avoid planting them until they are actively growing again as the soils warm in March.

In the Low Desert (0-2000 feet elevation) you can plant desert lavender in autumn and



Tough and drought tolerant, desert lavender delivers flowers that can be used the same way as European lavender.

Photos courtesy: Stan Shebs

right through the winter, since they will not become dormant unless the temperatures dip below 32 degrees (F).

Desert lavender will do best in well-drained soil. I confess that I killed the one I planted in clay soil. I didn't intentionally over-water it but in monsoon season the soil stayed too wet and the roots rotted. While this is a xeriscape plant, failing monsoon rains, desert lavender does like some extra water in the hotter months.

If you wish, you can fertilize in moderation (half-strength once a month through the warm months). You can also skip fertilizer, and the shrubs still grow well.

Desert lavender should be trimmed less than its domesticated cousin, garden lavender. Once a year is usually enough. Every three or four years, if the shrub has become leggy, you can do a severe rejuvenation

pruning. Cut it back to around a foot tall and allow it to fill back out.

Harvest the flowers as they appear. I keep a number of terra cotta plant saucers to dry various herb in. Dry out of direct sunlight, and use the desert lavender as you would European lavender. ♦

Dr. Jacqueline A. Soule is an award-winning garden writer and author of 11 books, the majority of them about landscape plants and gardening in the Southwest. Her latest, "Fruit and Vegetable Gardening in the Southwest" was released in June by Cool Springs Press. Jacqueline lives, teaches and writes in Tucson, AZ, where she also serves as chair of the Advisory Board of the Desert Legume Program. More about her online at Gardening With Soule.com. She will be speaking at Desert Green XVIII in Henderson, NV on November 6-7. Visit www.desert-green.org for more information.

NEWS

BASF Makes Sustainability Index

BASF was again included in the Dow Jones Sustainability World Index (DJSI World). The company has been especially recognized for its engagement in the areas of eco-efficiency, environmental reporting, labor practice and human rights. The DJSI World is one of the most renowned sustainability indices and represents the top 10 percent of the largest 2,500 companies included in the Dow Jones Global Index.

The BASF share is included in the DJSI World for the 14th consecutive year. The listed companies have to demonstrate continuous improvement every year with regards to sustainability and are assessed by analysts from asset manager RobecoSAM.

Sustainability is integral to BASF's "We create chemistry" strategy and a main growth driver. Additional information is available at www.basf.com/sustainability. ♦

IA Announces Awards

The Irrigation Association has announced the winners of its 2014 awards, which honor individuals and organizations that have made significant contributions to the irrigation industry. Award recipients will be recognized during the general session at the 2014 Irrigation Show & Education Conference, November 17 – 21, in Phoenix.

The Awards and Honors Committee reviewed 25 nominations this year, selecting winners in all five categories.

This year's award recipients are:
Crawford Reid Memorial Award: James "Jim" Roberts (awarded posthumously)

Industry Achievement Award: Richard Reinders, Reinders, Inc. (Elm Grove, WI)

National Water & Energy Conservation Award: Southern Nevada Water Authority (Las Vegas, NV)

Partner of the Year: Denne Goldstein, Irrigation & Green Industry (Reseda, CA)

Person of the Year Award: Lawrence Schwankl, PhD, University of California, Agriculture and Natural Resources (Visalia, CA)

The committee also reviewed candidates for the Irrigation Foundation's annual award. This year's recipient is: Excellence in Education: Michael Dukes, PhD, PE, CID, University of Florida (Gainesville, FL)

For more information on the Irrigation Show and Conference, visit www.irrigation.org. ♦

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Yellow Light: Caution, Part II

By David M. Kopec, University of Arizona

In the last issue, my article dealt with the physiological causes of yellow turf in high pH western soils. The cause is often iron chlorosis, in which the younger upper leaves turn yellow before the older lower leaves start to lose their green color.

This was contrasted with nitrogen deficiency, in which the turf in general has two or three shades of light green color, while the lower leaves are giving up scarce nitrogen to the newer younger leaves. Remember that with a nitrogen-deficient turf, the lower leaves often turn light green along with yellow tissue together, before completely turning brown (necrotic straw).

This issue largely addresses the turfgrass "mis-maintenance" that often causes iron chlorosis as well. We will examine the majority of these cases, plus mention some other extremes in soil conditions which induce iron-chlorosis type responses as well.

MAN MADE MALADIES

Improper mowing: All turfs that receive mowing are under some kind of stress. The rule of the "closer you mow, the more frequently you must mow" is true to that effect as well. When turf gets mowed either too low all at once (scalped) or simply gets mowed too low (regardless of mowing interval), iron chlorosis is often the result.

When grasses get scalped, the plant goes into emergency rescue mode. It has to send up new shoots with new leaves to act as emergency solar collectors. This happens so quickly that the "new shoots" lack the normal content of iron from this "fast growth." Therefore, scalping is often a major cause of iron chlorosis.

A turf can be mowed every other day, but when a turf is mowed below its lowest normal mowing height, iron chlorosis will also develop. In this situation, the new shoots are responding to the "regular" mowing, but the leaf tissue is not adequate enough to form a working "solar collector" before it gets cut off again. The result is often chlorosis.

Excess nitrogen: Excess nitrogen applied to turf can also be a cause of iron-chlorosis type symptoms. In this case, overall growth is accelerated by the flush of new growth caused by the excess nitrogen. This "rapid growth" cannot acquire enough soil iron fast enough either – therefore, iron chlorosis can occur.

SOIL SYMPTOMS

Wet soils: Beside high soil pH, there are other soil conditions which also instigate iron chlorosis-type symptoms. These include persistent wet soil conditions. In this case, iron is "reduced" chemically in the soil (iron changes to an ineffective form). Also in wet soils, there is less soil oxygen available. Roots require oxygen for proper function and when oxygen is limited, root function is compromised. In addition to "wet wilt" (roots cannot take up water to meet transpiration for leaf cooling) iron chlorosis often results as well.

Cold soils: Low soil temperatures decrease root activity merely as a function of temperature. Low temperature

often means low nutrient uptake. On soil with low amounts of soil iron, you may not see an iron chlorosis situation develop until the soil temperature drops.

Cold/wet soil: This is the worst of both of the soil conditions as just described. You have a double whammy working against you.

Pure sand root zones: Golf course greens are specifically designed and constructed to support the shortest turf canopy known to mankind. Sands lack the ability to hold absolute nutrient amounts compared to a "normal soil." They also lack the retention capability of nutrients compared to that of a "normal soil" as well. Just as greens are often "spoon fed" or fertilized once a month for N-P-K, trace elements are also required on pure sands. Here again, iron chlorosis can appear quite frequently from lack of iron soil availability.

As noted in last month's issue, if your turf appears yellow, see which leaves are yellow first! If it's the youngest (uppermost) leaves, it is most likely an iron deficiency. To confirm this, apply iron on a small strip or square area of grass and observe any difference. It's often that simple. ♦

David M. Kopec is a turf specialist with University of Arizona in Tucson. Want to learn more? Dr. Kopec will be speaking at Desert Green XVIII in Henderson, NV on November 6-7. Visit www.desert-green.org for more information.

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NEWS

Diamond Golf Getaway

To celebrate its 60th anniversary, E-Z-GO is offering a once-in-a-lifetime golf experience for one lucky winner and three friends.

The E-Z-GO Diamond Golf Getaway will take the winner, and three friends to round out his or her foursome, on an expenses-paid trip to play their choice among a selection of renowned golf courses, including Pebble Beach Golf Links, Pinehurst No. 2, Sea Island Golf Club, or a course along Alabama's famed Robert Trent Jones Golf Trail. The prize includes a round of golf for four at the course of the winner's choosing, plus first-class airfare and luxury accommodations for four during the trip.

To enter the contest, participants are asked to take a short, fun online quiz at www.diamondgolfgetaway.com that matches their golf skills and vacation preferences with one of the four ultimate golf experiences. People also can take the quiz via Facebook at www.facebook.com/4ezgo. Participants also can enter the contest by visiting their local E-Z-GO Authorized Dealer, or via postcard entry. Each entrant can enter the contest up to four times.

The "Diamond Golf Getaway" promotion will end December 31, 2014. To find your local E-Z-GO Authorized Dealer, visit www.ezgo.com/dealer_locator. ♦

Klumker Wins Bobcat

A second-generation Bobcat® compact equipment owner received the surprise of his life by being honored with a Special Edition One-Millionth Bobcat T650 compact track loader during Bobcat Company's "Unstoppable" campaign and Million Loaders Celebration contest.

Steven Klumker, of Mancos, CO, visited the Bobcat of Durango equipment dealership thinking he was being interviewed as a finalist for the contest. Instead, he was handed over the grand prize with his family on hand to celebrate with him.

"This is a dream come true for me. Bobcat machines have been our family's livelihood and our lifestyle my entire life," Klumker said after the "reveal." "And I cannot wait to show this loader off!"

Klumker's entry was selected from more than 12,000 that came in over six months, based on his answer to the question, "How does Bobcat make you unstoppable?"

For more than 40 years, the Klumkers have been customers of Bobcat of Durango, in Durango, Colorado, and Bingham Equipment in Arizona. ♦

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Growing Your Business

By Rose Epperson



All these articles on caring for plants in nurseries and landscapes got me thinking about how to grow your business into a healthy thriving organization. Making the decision to take your business to the "next level" will involve some of the most important decisions you will make as a business owner or manager. It's not a decision to be taken lightly.

We discussed planning in an issue of *Southwest Trees & Turf* earlier this year. We know that the planning process involves looking at where we are and where we want to be and then aligning our resources (4m + t) to get us there. When planning for (or considering) growth we need to take an in-depth look at our operations,

resources and relationships both within our organizations and outside in the environment in which we operate.

If we only had a crystal ball, it would make the process much easier, and probably a lot more fun. However, when you take away the mystery and look at the facts, you'll find the crystal ball isn't really necessary after all.

No matter whether you are planning tomorrow's workday or looking strategically over a long span of time, the first step remains the same: where are we today? Looking at your strengths, weaknesses, opportunities and threats is the perfect foundation for growth and planning. Evaluating performance of employees and surveying their strengths and weaknesses can provide another level of information that's essential to your growth.

Take inventory. What tools and materials do you have? What's their condition and how do they fit into a new or changed direction? Keeping up to date on the most progressive technology can lead to a more efficient and effective workplace.

You can have everything in life you want, if you will just help other people get what they want.

-Zig Ziglar

Do you have a business plan? If not, write one. A business plan is an essential roadmap for business success. This living document generally projects three to five years ahead and outlines the route a company intends to take to grow revenues (sba.gov). There are so many guides and tools available online to walk you through the process, there's no reason to reinvent the wheel. Identifying what differentiates your business from others is key to success.

At this point, you may be thinking "how can I accomplish all this? I am just one person!" You are right, you are only one person. Your singular vision and ability has its limits, but you are in luck. The resources you need to grow lie right outside your office door. That's right. There is a wealth of knowledge in your staff. From your top performer to the part time clerk, every employee is an untapped resource. Get them involved in your growth. They are your eyes and ears and able to bring a fresh perspective to all aspects of your business.

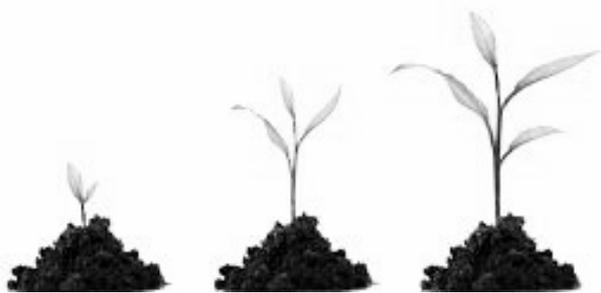
The side benefit to participative management is that every employee feels a sense of the ownership in the growth or change and therefore are more apt to provide the upmost level of service and

highest sense of commitment to the organization.

Evaluate and measure. Use a simple control system to make sure that your expected results and your actual results are in alignment. This could be in the form of a financial statement, periodic reviews and evaluations or even through customer satisfaction surveys and inquisitive feedback from others.

Don't be afraid to tweak the plan as you go. Incremental tweaks and redirection can be normal in the business environment. The situation changes along with technology and customer expectations. Be willing to fluctuate a bit; the ability to adapt to what the customer wants keeps you with the top of your business profile. Add to that the ability to remain somewhat flexible in our strategies and plans for growth and change and you are on the road to success.

Don't be afraid of failure and don't give up. Did you know that Thomas Edison failed ninety nine times before hitting pay dirt? It's through these simple steps that we can take our organization to the level that we dream of. Take an idea, plant it, nurture it and watch it grow. ♦



ASSOCIATION UPDATE



CLCA

California Landscape
Contractors Association
www.clca.org

New Convention Presentation

Do generations really matter? Join Jamie Noster and Maddie Grant as they cover the basics of generational theory plus review the important characteristics you need to know of the different generations in today's workforce. Extra attention will be spent on the newest emerging generation ... the Millennials. As the soon-to-be largest generation in the workforce, learn how the Millennials approach aligns with other forces in business and society that are challenging the traditional ways. Jamie and Maddie will make the case for developing four key capacities to position you to be ready for this "new normal" and succeed in the next era of business.

CLCA Annual Convention | 9 - 11 a.m., Saturday, November 15. Visit <http://clca.org/convention> for more details. ♦



ANA

Arizona Nursery
Association
www.azna.org

Upcoming Seminar

Fall LLC Speaker Announced

Thursday, October 30th, 11:30 AM, Phoenix

We are thrilled to feature Craig Regelbrugge, AmericanHort's Senior Vice President responsible for Industry Advocacy and Research Program. He will cover a variety of topics critical to the nursery and landscape future including the future workforce and immigration reform opportunities, the future of Neonics, tax reform and cash accounting, worker protection, standard changes and a future of retail initiative. This is a must attend event for all owners and general managers. Cost is \$25 for ANA members. Please call the ANA office at 480-966-1610 or email colvin@azna.org to make your reservation. ♦



ASCA

American Society of
Consulting Arborists
www.asca-consultants.org

Advanced Level 3 Inspections

Take a deep dive into Advanced Level 3 Inspections through seven informative sessions on the morning of Friday, December 5.

8:30 am - 9:15 am: Sonic Tomography for Tree Decay Assessment, Bruce Fraedrich, Ph.D., Bartlett Tree Experts

9:15 am - 9:45 am: Tilt Sensors to Measure Tree Stability in Winds, Ken James, Ph.D., ENSPEC Pty Ltd.

9:45 am - 10:15 am: Monitoring Tree Lean, Tom Smiley, Ph.D., Bartlett Tree Experts

10:30 am - 11:00 am: Incorporating Tree Radar Into Your Consulting Practice, Robert Booty, RCA #487, Arborist OnSite, Inc.

11:00 am - 11:30 am: Using Drones in Risk Assessment, Tom Smiley, Ph.D., Bartlett Tree Experts

11:30 am - Noon: Insects and Diseases That Increase Risk of Failure, Leonard F. Burkhardt Jr., Ph.D., The Davey Tree Expert Company

Noon - 12:30 pm: How to Use Visual Assessment for Rating Tree Risk, Bruce Fraedrich, Ph.D., Bartlett Tree Experts

You can register for this conference by visiting <https://www.asca-consultants.org/index.cfm>. Western Chapter ISA members receive discounted rates on attendance. ♦



UCFC

Utah Community Forestry Council
www.utahurbanforest.org

Congratulations to Our Master Climbers!

Congratulations to Mark Malmstrom, who took first place and will represent Utah at the International Tree Climb Competition in Tampa, FL in March 2015.

Here are the results for all climbers:

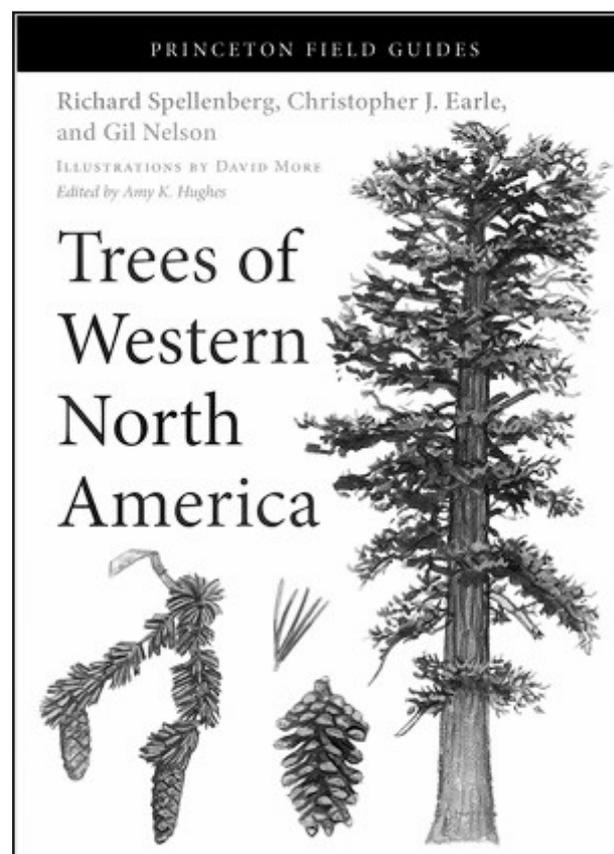
1. Mark Malmstrom
2. Jake Bleazard
3. Ryan Torcicollo
4. John Dallinga
5. Zack Hancuff
6. Nick Bleckert
7. Russell Hope
8. Johnny Atkin
9. Dustin Badger
10. Matt Erkelens ♦



Mark Malmstrom

Trees of Western North America

By Richard Spellenberg, Christopher J. Earle & Gil Nelson



PUBLISHER:

Princeton University Press

DETAILS:

560 pages, 200 color illustrations

PRICE:

Paperback Flexibound, \$29.95; Hardcover, \$60.00

Review: When I first saw that this was from a "back East" publisher, I was skeptical. But as soon as I opened this great reference guide, I knew that it would be a valuable addition to my library. It is richly illustrated and the detailed descriptions of the hundreds of tree species make identification a breeze. The illustrations show overall form, leaves, fruits, bark and other identifying characteristics. The maps show where the trees are located. It's a "must" for any Western plant library. Put this on your list!

Helen M. Stone, Editor

Publisher's description:

Covering 630 species, *Trees of Western North America* is the most comprehensive book of its kind. Presenting all the native and naturalized trees of the western United States and Canada as far east as the

Great Plains, the book features superior descriptions; thousands of meticulous color paintings; range maps that provide a thumbnail view of distribution for each native species; "Quick ID" summaries; a user-friendly layout; scientific and common names; the latest taxonomy; information on the most recently naturalized species; a key to leaves; and an introduction to tree identification, forest ecology, and plant classification and structure. The easy-to-read descriptions present details of size, shape, growth habit, bark, leaves, flowers, fruit, flowering and fruiting times, habitat, and range. Using a broad definition of a tree, the book covers many small, overlooked species normally thought of as shrubs, as well as treelike forms of cacti and yuccas. With its unmatched combination of breadth and depth, this is an essential guide for every tree lover. ♦

Fall Planting

Continued from Page 1

fact that fall planting time in Las Vegas will certainly be different than fall planting in San Diego.

Having said that, why is fall planting considered optimal? Fall has multiple planting benefits, the first of which comes to mind (especially for me, as I've recently moved back to the heat of the desert after living in a much higher and cooler mountain climate) is fall's cooler temperatures -- for the "planter" (you and I) as well as the plants.

Transplanting and planting of trees and shrubs is stressful any time of year, but especially so in the dead of summer. The cooler air temperatures of fall means that transpiration is less -- the plants will lose less water through their leaves -- and are therefore less likely to dry out and desiccate.

Indeed, spring also offers those same cool temperatures but the added advantage of comparative cooler fall temperatures is that the fall soil temperatures will still be quite warm, encouraging plants to readily put on new roots. During

the fall, after long spells of hot dry air, the soil temperatures in our southwest climates are perfect for new root generation until the soils begin to chill. In the spring, the newly planted material won't begin to grow until the soils warm up.

Trees and shrubs planted in the early fall have the autumn months to develop their root systems, giving them a head start in the spring. During the winter months they can acclimate, rest, and recover before the onset of rapid spring growth.

Autumn weather also typically has more favorable days for planting -- the cooler temperatures are more predictable. Spring weather can be a bit all over the place, as we all know. It never fails to frost once I've planted a frost-sensitive treasure in the garden. And the soils in the spring are not so forgiving when wet and soggy as they are in the fall. Fall showers are generally plentiful, but it's easy to simply deep water the new plants if it doesn't rain enough to establish the new planting.

And we've all had that customer/client that insist on (aka "customer expectations") planting Boston Ivy on a west facing white stucco wall, with rocks for mulch....in August! Right? It's worth explaining to this client (or trying to) the beneficial compromise of waiting just one or two more months. That will allow their "wrong plant, wrong place" scenario the potential opportunity to acclimate under less harsh conditions and undergo a much-needed rest all winter in order to ramp up the strength to make it through the brutal summer temperatures..... well, yes!

Explain and layout all of this useful information. Then hope the client not only heard what you said, but agrees! And whether they do or do not agree, an attempt to educate on optimum planting was provided.

A few other less obvious benefits of fall planting are as simple as more free time -- spring always seems to be manic with planning, checklists, and to-do-lists. Additionally, the local garden centers

and nurseries often are trying to sell the last of their inventory and the bargains in the fall can be substantial. Pest and disease problems are generally lower in the fall as well. And you really don't need fertilizer in the fall, which would only encourage new tender growth, making the plant more susceptible to frost in winter weather.

And if all of those reasons for fall planting are not enough to convince you, try this one: Planting in the fall means there's one less thing to do next spring....and that's the "fall planting" logic I'm going with! Happy fall planting! ♦

Shirl McMayon has a bachelor of science in Ornamental Horticulture, has been an ISA Certified Arborist since 1997, and is currently employed at GTI, a large landscape maintenance/construction company in Las Vegas, NV. She also serves on the board of the Southern Nevada Arborist Group and is a writer/magazine committee member for CAI's Community Interests publication.

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NEWS

Trees Growing Faster

Trees have been growing significantly faster since the 1960s. The typical development phases of trees and stands have barely changed, but they have accelerated -- by as much as 70 percent. This was the outcome of a study carried out by scientists from Technische Universität München (TUM) based on long-term data from experimental forest plots that have been continuously observed since 1870. Their findings were published recently in *Nature Communications*.

Three decades ago, "forest dieback" was a hot topic, with the very survival of large forest ecosystems seemingly in doubt. But instead of a collapse, the latest studies indicate that forests have actually been growing at a faster rate. Whether, how and why forest stands have changed their growth patterns over the last century are still hotly disputed questions.

This latest study provides some answers. It was based on data from experimental forest plots that have been observed systematically

since 1870. This makes them among the oldest forest study sites in the world.

In the cases of spruce and beech, respectively the dominant species of coniferous and deciduous trees in Central Europe, the TUM scientists noted significantly accelerated tree growth. Beech trees exhibited a growth rate that was 77 percent faster than in 1960, while the figure for spruce was 32 percent faster. The stand volume growth for beech was 30 percent, and 10 percent for spruce. "The stands as a whole had a lower growth rate than the individual trees essentially because larger trees require more space, hence each stand will have fewer trees," explains Pretzsch.

The scientists are putting the growth acceleration down to rising temperatures and the extended growing season. Carbon dioxide (CO₂) and nitrogen are other factors contributing to the faster growth. The concentrations of these gases in the atmosphere have been rising steadily over the last century. ♦

CRAZY CONTAINERS

Add color, texture, and fragrance to areas that usually go without by creating mixed container plantings that utilize roses as their main feature. Jackson and Perkins offers a variety of 2-quart roses that combine the ease of bedding plants with the beauty of America's favorite flower, making them ideally suited to planting in mixed containers.



of roses and companion plants, but you can also be assured they are all of the highest quality available on the market today. It's time to start designing something new and exciting for your home!

For more information on our mixed container plantings, visit jacksonandperkins.com or contact us directly at our public relations department at 864.941.4521. ♦

For landscape and gardening professionals, wet, hilly or uneven terrain can make working outside difficult and dangerous. STABILturf, produced by STABILgear, are traction cleats that fit on any shoe or boot enabling work to be done safely in all conditions.

STABILturf cleats improve productivity and traction during outdoor work for everyone from landscaping crews and golf course groundskeepers, to flower nursery workers and farmers. The foot platform on the STABILturf cleats is lightweight with a low center of gravity, ensuring better stability. The



cleats are held on with tension fit bindings that securely fit on any sneaker, shoe or work boot.

STABILturf are available for purchase online and at select retailers nationwide. For more information, please visit www.stabilgear.com. ♦

Plant Introductions Continued from Page 1

But probably foremost in many of their criteria is coming up with a plant that they can sell more of at hopefully a higher price. That focus often might be simply on a bigger, brighter flower in larger quantities.

We should keep in the backs of our minds that new is not necessarily better in any market, including horticulture. Yes, it might have a bigger flower but fragrance may now be gone. There is a new breed of hybridizers who are backtracking to put what we believe are very desirable characteristics back into some plants such as getting great fragrances back into a rose or getting a crepe myrtle which is not plagued by powdery mildew, but we are not moving down this path quickly enough.

This field of plant introductions should be more widely shared by amateur horties as well as the geeks with degrees. In many cases, the person who keeps their eyes open and notices differences in a crop of seedlings is often the one who finds something improved and original -- not the fellow who has a big laboratory and a lab coat. I am hoping that this article and our discussion at Desert Green might inspire others to work towards finding some new plants.

Knowing that there are readers and attendees who have no idea how to make a new plant from two parents, we will cover this pretty simple task of finding a male to meet a female. How familiar is that?

Part of the magic is in choosing new plant parents starts with the idea of what your goal is. A big next step is taking all of those seed once ripe and evaluating new seedlings. This is often where there is a downfall -- not knowing what to discard and wanting to keep everything.

All too often at this stage, a breeder -- whether a professional or a backyarder sees something different and decides, "Wow, I have a winner!" and introduces it. Well, in too many cases, this rush to market brings a perhaps different but no better plant to the market. When the consumer goes through this process a few times with failed expectations, they become burnt out and reluctant to pick up that new plant in the nursery.

The next step really should be evaluation of the new cultivar in a setting with other cultivars currently in the marketplace. This evaluation should be done by independent and impartial juries who are not aware of who brought what to the table.

In this case, if the old tried-and-true variety is still better, so be it. The breeder needs to go back to the field and try again, rather than rushing to market.

There are commercial trials, of course, but one is not often as critical of one's own children. Recently, with cuts in funding to universities and state budgets, public evaluations by nonprofit entities are not at a stage that they should be. There are some exceptions, such as the program developed by my friend Jimmy Turner at the Dallas Arboretum. We need to encourage more evaluations at this level to decrease the amount of trivial plants in the marketplace.

After a plant has been judged better in some way, one could bring it to the marketplace, but most of the retail consumers do not realize how much time and money has gone into getting this newcomer to this point. There are those who believe it should now be open to everyone without a bit of each sale going to the inventor, but there would be little reason for anyone to do all of this work with no gain.

So there are various mechanisms in place to protect this invention. There are various mechanisms to do so, from at the ubiquitous trademarks to plant patents to breeders rights. These processes can be long and complicated, but can also result in a superior plant coming to market that will increase sales and profit everyone -- the breeder, the seller and the consumer. ♦

George Hull a Partner at N.P.I. New Plant Introductions LLC Director, and an professor at Mesa Community College, Mesa, AZ. Want to learn more? Hull will expand on plant patents and will also take a peek at what has recently come down the road in the way of plant introductions at Desert Green XVIII in Henderson, NV on November 6-7. Visit www.desert-green.org for more information.

SUPER SPIKE

Here is a precision engineered product that gives customers both a great repair solution for shifting pavers and a way to "get it right the first time". This product is innovatively designed to lock paver edging tight against the pavers.

This EdgeTite™ 10 inch spike is a great way to offer customers the most effective solution against the natural forces of frost heaving and changing

temperatures in this industry.

MCP Supply is a successful technology and sourcing company that focuses on innovative products that make a difference by improving the construction industry wherever possible. Located in south central PA, MCP Supply currently has distribution hubs located in South Carolina, Illinois and at its headquarters in Lewisberry PA. ♦

FANTASTIC FILTER

Toro announces that the Aqua-Clear #0153 fiberglass sand media filter product line is now available in a complete automated system, for flows ranging from 50 to 400 gpm.



Aqua-Clear filters are corrosion-resistant, designed for drip irrigation systems operating up to 75 psi, and are available in 18-, 24-, 30- and 36-inch systems. Some of the new features include:

- Automated systems complete with all valves, controller and hydraulic connections;
- Double-chamber backwash valve for reliable, low-head loss operation; and
- Solid-state controller backwashes on both time and pressure differential.

For more information, please visit www.toro.com. ♦

AWESOME ATTACHMENT

Club Car's innovative VersAttach bed-based attachment system for its new Carryall line is making that kind of "instant engineering" unnecessary.

The new system accommodates 10 VersAttach tools, including:

- Standard, ratcheting and long tool holders
- Backpack blower racks
- Ladder racks
- Short and long bed dividers
- Cargo tie downs
- Water cooler and fuel-pack holders (Coming soon.)

The aluminum beds in the new vehicles feature a Rhino®-lining, the same material used to line the beds of many pickup trucks.

Club Car products are sold through Authorized Club Car Dealers. To find a dealer near you, visit www.clubcardealer.com. ♦



CALENDAR

October 21 - 22

Join us for the 9th Annual Restoring the West Conference in Logan, UT. This year's theme is 'Managing for Resilient Riparian Corridors'. For more information and to register, visit restoringthewest.org.

October 22 - 24

GIE+Expo featuring keynote with bestselling author Bob Clements, Kentucky Exposition Center, Louisville, KY. For more information visit www.gie-expo.com.

October 23 - 26

Green Industry & Equipment Expo, plus PLANET Green Industry Conference, PGMS School of Grounds Management and Hard-scape North America Certification and Training. Kentucky Exposition Center, Louisville, KY. Contact 800.558.8767, info@gie-expo.com or visit www.gie-expo.com

October 27 - 29

Annual Southwest Turfgrass Association Landscape Conference and Expo, Embassy Suites Convention Center, Albuquerque, NM. For more information and to register, please visit <http://southwestturfgrass.com/>

October 29 - 30

The Landscape Expo, Long Beach Convention Center. Extensive training show, educational session, live demonstrations. For more information, visit www.landscapeonline.com

October 30

Synthetic Turf Field Day hosted by The University of Arizona Turfgrass Research, Extension, and Education program. The link to the announcement is located at <http://turf.arizona.edu>. For questions, contact Umeda at 602.827.8214 or kumeda@cals.arizona.edu

November 6 - 7

Desert Green XVIII. Henderson Convention Center, Henderson, NV. Six concurrent education sessions plus table top displays. Call 702.454.3057, email stonepeakservices@gmail.com or visit www.desert-green.org for more information

November 13 - 14

TCI EXPO, hosted by the Tree Care Industry Association (TCIA), Hartford, CT. More information is available online at <http://tcia.org/events/tci-expo>

November 15

CLCA Annual Convention, 9 - 11 a.m., Saturday, November 15. Join Jamie Notter and Madie Grant as they cover the basics of generational theory plus review the important characteristics you need to know of the different generations in today's workforce. Visit <http://clca.org/convention> for more details

November 19 - 20

Irrigation Association Annual Trade Show, Phoenix Convention Center, Phoenix, AZ. Educational conference Nov. 17-12. Visit www.irrigation.org for more information

November 21-22

ASLA Annual Meeting & Expo, Denver, CO. For information and to register, please visit <http://www.aslameeting2014.com>

December 5

Advanced Level 3 Inspections: seven informative sessions on the morning of Friday, December 5. You can register for this conference by visiting <https://www.asca-consultants.org/index.cfm>. Western Chapter ISA members receive discounted rates on attendance.

March 21-22

2015 International Tree Climbing Competition, hosted by the ISA. This event is split from the ISA Annual Conference, and will be hosted in Tampa, FL. For more information, please visit <http://itcc-isa.com>.

April 27 - May 1

81st Annual Western Chapter ISA Annual Conference, "Nature and Science of Arboriculture". Hosted at Tenaya Lodge in Yosemite, CA. For more details, visit www.wcisa.net.

Send your calendar items at least eight weeks in advance to:

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PO Box 796
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E-mail: helen@swtreesandturf.com;
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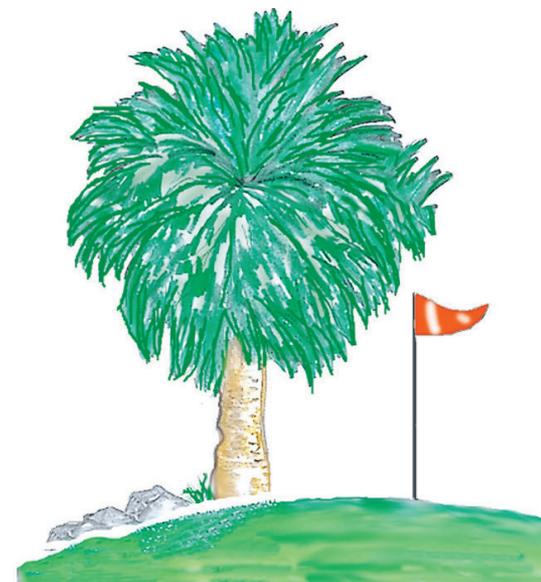
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